STATE OF NORTH DAKOTA

STATE
DEPARTMENT
OF
HEALTH

Forty-Sixth
REPORT
July 1, 1977-June 30, 1979

ARTHUR A. LINK
GOVERNOR

JONATHAN B. WEISBUCH, M.D.
State Health Officer

W. VAN HEUVELEN
Executive Officer

NORTH DAKOTA
STATE DEPARTMENT OF HEALTH
BISMARCK, NORTH DAKOTA

North Dakota State

STATE HEALTH OFFICER
(701) 224-2372

GENE A. CHRISTIANSON, P.E.
Acting Administrator
(701) 224 2371

Department of Health

State Capitol
Bismarck, North Dakota 58505

December 17, 1979

The Honorable Arthur A. Link
Governor, State of North Dakota
State Capitol
Bismarck, ND 58505

Dear Governor Link,

We respectfully transmit to you the biennial report of the State Department of Health for the period July 1, 1977, to June 30, 1979.

The report includes a comprehensive review of the department's programs, all of which reflect an ongoing concern for the preservation of our state's health and environment. The employees of the department pursue this goal with perseverance and a conscientious attitude.

Sincerely,

Gene A. Christianson
Acting Administrator

MAM/mf

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STATE HEALTH COUNCIL
June 30, 1978

Mr. Emil Wieland, Chairman	Jamestown, North Dakota
Mr. Earl Chase	Washburn, North Dakota
Mrs. Bernice Palmer, Vice Chairman	Bismarck, North Dakota
Neil D. Cummings, O.D.	Valley City, North Dakota
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June 30, 1979

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State Department of Health
June 30, 1979

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Marian Sypnieski	Secretary
Mary Feichle	Secretary
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R. Joseph Rude	Assistant Director, Program/Operations
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Janet L. Johnson	Account Clerk
Inez Link	Account Clerk
Virginia Mund	Account Technician
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Pamela Crawford, B.A.	Medical Records Consultant
Pamela Eastgate	Secretary I
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SUPPORTIVE HEALTH SERVICES
Willis VanHeuvelen, B.A., M.S., Chief

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Frances Coonrod	Laboratory Technician
Robert Culver	Stores Clerk
Ramona Ehrmantraut	Secretary
Gloria Feist	Laboratory Helper
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Roger Kramer, B.S.	Microbiologist
Daniel Mattern, B.S.	Microbiologist
Claudia Painter	Clerk-Typist
James Pearson, B.S., M.P.H., Dr. P.H.	Educational Leave
Mary Aletha Rettke	Laboratory Helper

Linda Sheets	Laboratory Technician
Orval R. Stokke, B.A.	Microbiologist
Kenneth Thiede	Laboratory Technician
Joel Zimmerman, M.S.	Microbiologist
Ken Kary, B.S., M.P.H.	Chemist
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Lydia Fewless, B.S.	Chemist
James McCulloch, B.S.	Chemist
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Mari Kae Hertz	Lab Helper
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Lois Williamson, R.D.H.	Dental Hygienist

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Frederick Meyer	Public Health Representative
Brian Monson, B.S.	Public Health Representative
Halbert D. Neugebauer	Public Health Representative
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Marita Hoffart, R.N.	Nurse Consultant
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Rosalyn Norstedt	Secretary
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Colleen Patton, B.S.	Program Coordinator
Olivia Rambeck, B.S.N., R.N., N.P.	Program Director
Linda Simmons, B.S.	Project Director
Joan Tracy, B.S., R.D.	Nutrition Consultant

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Susan Pederson, B.S. ..... Community Health Nurse Consultant

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Brenton D. Higdem, B.S. ..... Emergency Health Services Specialist
Tyler B. Larson ..... Emergency Health Services Specialist
Clarence H. Olson ..... Emergency Health Services Specialist
Kathleen S. Ohly, R.N., R.N.P., P.A.C. ..... Emergency Health Services Specialist
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Colleen Reinhardt ..... Clerk-Typist
Sharon Rogstad ..... Clerk-Typist

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Lucille Clark, R.D. ..... Health Facilities Consultant
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Janet Kipp, R.N. ..... Health Facilities Consultant
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Kay Schwartz ..... Clerk Stenographer
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Vivian Burkhardt ..... Secretary
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Cherie Kindsvogel ..... Clerk-Typist
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Terry L. O'Clair, B.S. ..... Environmental Engineer
Rodney D. Peterson, A.S. ..... Radiation Specialist
Robert S. Roach ..... Environmental Technician
Londa Rodahl ..... Technician-Composer
John C. Samuelson, B.S. ..... Environmental Engineer
Ann Schlosser ..... Receptionist
Joseph A. Selnekovic, B.S. ..... Environmental Quality Specialist
Steven F. Weber, M.S. ..... Meteorologist

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Richard W. Robinson, B.S., R.S. ..... Public Health Sanitarian

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Timothy Link ..... Chemist
Teri Lunde ..... Planner
Lon Revall ..... Environmental Quality Specialist
David Swiflick ..... Human Services Program Specialist
Florence Flegel ..... Secretary

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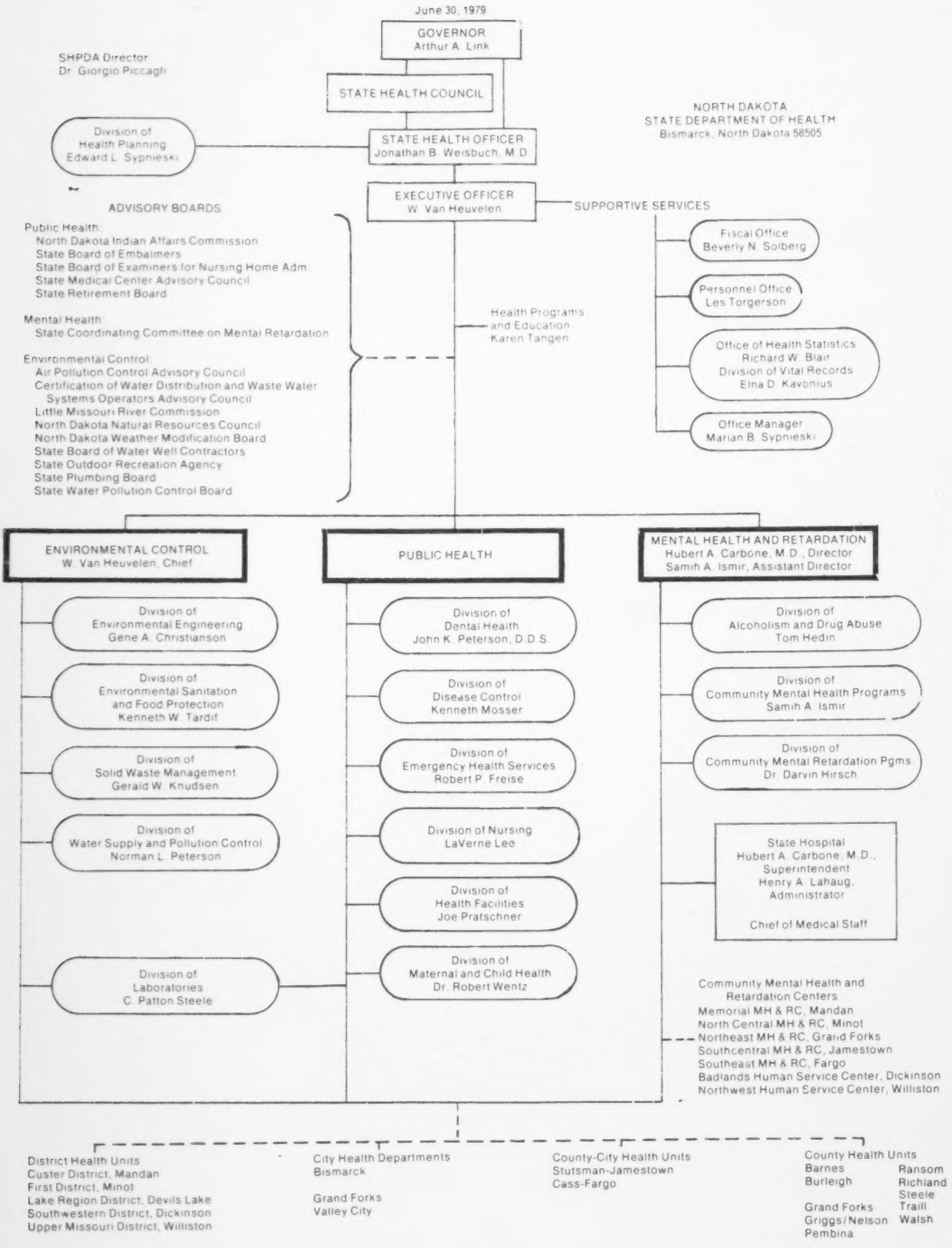
Francis Schwindt, B.S., M.S.	Assistant Director
Robert L. Francis, PhB	Environmental Engineer
Dorothy Bender	Clerk Typist
David Bergsagel, B.S.	Environmental Engineer
Nanette Boots	Clerk Typist
Lorie Boschee	Clerk Typist
Keith Demke, B.S., M.S.	Environmental Engineer
Monte Engel, B.S.	Environmental Engineer
Dennis Fewless, B.S.	Environmental Quality Specialist
Jeff Hauge, B.S., C.E.	Environmental Engineer
Wayne Kern, B.S., M.S.	Environmental Engineer
Sheila Kuhn, B.S.	Human Services Program Administrator
Elisabeth Leyer	Clerk Typist
Jack Long, B.S.	Environmenral Engineer
Michael Parsons, M.E.	Environmental Engineer
Suzette Peltier, B.S.	Water Quality Specialist
Ralph Riedinger, B.A.	Human Service Program Specialist
Mike Sauer, B.S., M.S.	Limnologist
Gaylan Staael	Environmental Engineer Technician
Iris Stuart	Secretary
Mark Swartz	Public Health Sanitarian
Tim Wingerter, B.S.	Environmental Quality Specialist
Jim Withnell, B.S.	Environmental Quality Specialist
Lynette Eisenbeis	Clerk Typist

MENTAL HEALTH AND RETARDATION SERVICES

Hubert A. Carbone, M.D., Director
Samih A. Ismir, Assistant Director

Samih A. Ismir, A.A., B.A., B.D., M.A.	Director of Community Mental Health Programs
Thomas R. Hedin, B.S.	Director of Division of Alcoholism and Drug Abuse
Darvin F. Hirsch, Ed.D.	Director of Community Developmental Disabilities Programs
Carl D. Rodlund, B.S., Ed.	Director of Support Services
Larry L. Johnson, B.A.	Assistant Director, Division of Alcoholism and Drug Abuse
Henry Lebak, A.A., B.A., M.A.	Coordinator of Research and Statistics
William Sharff, Ph.B., M.C.R.P.	Coordinator of Planning
Terry Focke	Coordinator of Management Information Services
Barbara Guler	Secretary
Randa Kruckenberg	Secretary
Kathleen Schneider	Secretary
Madonna Strand	Secretary
Joyce Weisenburger	Secretary


June 30, 1979
GOVERNOR
Arthur A. Link
SHPDA Director
Dr. Giorgio Piccagli
STATE HEALTH COUNCIL
NORTH DAKOTA
STATE DEPARTMENT OF HEALTH
Bismarck, North Dakota 58505
Division of
Health Planning
Edward L. Sypnieski
STATE HEALTH OFFICER
Jonathan B. Weisbuch, M.D.
EXECUTIVE OFFICER
W. Van Heuvelen
SUPPORTIVE SERVICES
ADVISORY BOARDS
Public Health:
North Dakota Indian Affairs Commission
State Board of Embalmers
State Board of Examiners for Nursing Home Adm.
State Medical Center Advisory Council
State Retirement Board
Mental Health:
State Coordinating Committee on Mental Retardation
Environmental Control:
Air Pollution Control Advisory Council
Certification of Water Distribution and Waste Water
Systems Operators Advisory Council
Little Missouri River Commission
North Dakota Natural Resources Council
North Dakota Weather Modification Board
State Board of Water Well Contractors
State Outdoor Recreation Agency
State Plumbing Board
State Water Pollution Control Board
Health Programs
and Education
Karen Tangen
Fiscal Office
Beverly N. Solberg
Personnel Office
Les Torgerson
Office of Health Statistics
Richard W. Blair
Division of Vital Records
Elna D. Kavonius
Office Manager
Marian B. Sypnieski
ENVIRONMENTAL CONTROL
W. Van Heuvelen, Chief
PUBLIC HEALTH
MENTAL HEALTH AND RETARDATION
Hubert A. Carbone, M.D., Director
Samih A. Ismir, Assistant Director
Division of
Environmental Engineering
Gene A. Christianson
Division of
Environmental Sanitation
and Food Protection
Kenneth W. Tardif
Division of
Solid Waste Management
Gerald W. Knudsen
Division of
Water Supply and Pollution Control
Norman L. Peterson
Division of
Laboratories
C. Patton Steele
Division of
Dental Health
John K. Peterson, D.D.S.
Division of
Disease Control
Kenneth Mosser
Division of
Emergency Health Services
Robert P. Freise
Division of Nursing
LaVerne Lee
Division of
Health Facilities
Joe Pratschner
Division of
Maternal and Child Health
Dr. Robert Wentz
Division of
Alcoholism and Drug Abuse
Tom Hedin
Division of
Community Mental Health Programs
Samih A. Ismir
Division of
Community Mental Retardation Pgms.
Dr. Darvin Hirsch
State Hospital
Hubert A. Carbone, M.D.,
Superintendent
Henry A. Lahaug,
Administrator
Chief of Medical Staff
Community Mental Health and
Retardation Centers
Memorial MH & RC, Mandan
North Central MH & RC, Minot
Northeast MH & RC, Grand Forks
Southcentral MH & RC, Jamestown
Southeast MH & RC, Fargo
Badlands Human Service Center, Dickinson
Northwest Human Service Center, Williston
District Health Units
Custer District, Mandan
First District, Minot
Lake Region District, Devils Lake
Southwestern District, Dickinson
Upper Missouri District, Williston
City Health Departments
Bismarck
Grand Forks
Valley City
County-City Health Units
Stutsman-Jamestown
Cass-Fargo
County Health Units
Barnes
Burleigh
Grand Forks
Griggs/Nelson
Pembina
Ransom
Richland
Steele
Traill
Walsh

REPORT OF THE STATE HEALTH OFFICER

The State Department of Health was created in 1889 with amendments to that law occurring throughout the years. The Legislative Session of 1947 reorganized the Health Department, creating a State Health Council as the official policy-making body. The State Health Council acts as the official body to exercise administrative, quasi-judicial rule and regulation and standard making powers for the protection, preservation and promotion of public health.

The Health Council is composed of 11 members appointed by the Governor for three-year overlapping terms. Eight of the council members represent professional health care groups and the other three represent the consumer population. The State Health Council meets regularly on the third Tuesday of the first month of each quarter.

The State Health Officer is appointed by the Governor and his salary is set by the State Health Council. At the regular quarterly meetings of the Council, the State Health Officer, the Executive Officer and staff members of the department present materials for the Council's consideration. The Council, in accepting and discharging its duties with dispatch and efficiency, has assisted the department in carrying out its functions and provisions for health prevention, health maintenance, institutional management and environmental control programs.

NORTH DAKOTA STATE DEPARTMENT OF HEALTH OBJECTIVES

ADMINISTRATION: To assume responsibility for management of the Department; to provide supportive services for the divisions of the Department, and to assist in coordinating Department activities.

HEALTH PLANNING, IMPLEMENTATION AND RESOURCE DEVELOPMENT: To reduce the inflation rate in health services in North Dakota, to improve access to care and to develop a more comprehensive system of service delivery.

ENVIRONMENTAL CONTROL, HEALTH AND ENGINEERING: To assure that the quality of life in North Dakota will not be diminished below acceptable standards as a result of degradation of the air, water and physical environment.

PUBLIC HEALTH SERVICES: To bring to the citizens of North Dakota the highest quality of preventive health services and personal health services otherwise unavailable in the area.

MENTAL HEALTH AND RETARDATION: To develop, coordinate and provide a system of services and programs dealing with mental illness, developmental disabilities, mental retardation, drug and alcohol abuse and to assure that these services are available to all North Dakotans.

During the past biennium the State Health Department implemented many successful programs which have been designed to fulfill these objectives and to protect the health and environment of all North Dakotans. Within this report you will find explicit summaries of the activities conducted by the Department.

DIVISION OF FISCAL OFFICE

Operating Funds

A major portion of the operating funds come from Federal moneys allocated to the State Department of Health by the Department of Health, Education, and Welfare, the Environmental Protection Agency, and other Federal agencies. During the 1977-1979 biennium, the department operated on 20 per cent State funds and 80 per cent Federal funds. Federal funds are received in the form of block grants for General Health and Maternal and Child Health, program grants from the Environmental Protection Agency, and special project funds from several other Federal agencies. About 44 per cent of the funds received by the department are allocated to local government for their health program financing.

All funds expended by the department — State, Federal and special — are appropriated by the legislature and expended through the Fiscal Office according to State law.

The legislature appropriated the following sums for the biennium 1977-1979:

Public Health Department	$3,378,635.00
Mental Health and Retardation Service Units	2,380,905.00
Abandoned Vehicle Fund	400,000.00

Table 1
EXPENDITURE REPORT FOR THE NORTH DAKOTA STATE
DEPARTMENT OF HEALTH FOR THE FISCAL YEARS
ENDING JUNE 30, 1978 AND JUNE 30, 1979

FUNDS	Fiscal 1978	Fiscal 1979
STATE FUNDS		
Salaries and Wages	$773,267.06	$837,705.99
Fees and Services	271,595.59	290,228.55
Supplies and Materials	378,086.45	403,593.66
Equipment	132,099.15	57,401.95
Grants	55,245.00	59,849.00
Disease Control	66,557.30	48,952.25
Abandoned Motor Vehicle	75,707.36	96,109.91
House Bill 1173 — locals	222,092.40	377,907.60
TOTAL STATE FUNDS	$1,974,650.31	$2,171,748.91
FEDERAL GRANTS AND OTHER FEDERAL FUNDS		
Administration and Support		
Civil Service Commission		
IPA Orientation	$2,079.26	$2,162.74
Indian Health Services	4,000.00	4,000.00
National Center of Health Statistics	774.15	0
State Health Plan & Development	236,124.00	346,627.23
Total Administration and Support	242,977.41	352,789.97
Public Health		
Cervical Cancer Screening	44,567.00	35,489.83
Child Safe	2,100.00	653.79
Comprehensive Public Health 314d	583,572.00	333,082.12
Emergency Medical Services DOT	76,101.05	102,737.86
Emergency Medical Services HEW	141,858.38	0
Family Planning	334,828.00	449,908.96
Hypertension 314dh	38,447.84	32,162.67
Immunization Assistance Project	86,374.00	100,634.66
Influenza Immunization Project	397.47	0
Maternal & Child Health Services	864,088.00	1,240,098.99
Preschool Hearing Clinic	10,000.00	0
SRS Title XIX Medical Services	143,446.92	107,603.38
SSA Bureau of Health Insurance	212,522.27	275,439.20
Venereal Disease Control Project	82,531.00	52,183.39
United States Department of Agriculture WIC	1,162,699.00	2,001,975.01
Emergency Medical Servies OWRC	0	53,245.26
Motorcycle Injury Study	0	7,026.88
Improved Child Health	0	32,859.51
MCH Crippled Children's Program SS	0	1,884.00
Summer Food Service Project	0	245.00
Tuberculosis Kentucky Research	0	8.76
Total Public Health	3,783,532.93	4,827,239.27

FUNDS	FISCAL 1978	FISCAL 1979
Environmental Control		
Bureau of Land Management	5,520.01	0
EPA Air Pollution Control	185,302.65	318,042.84
EPA Noise Control Program	4,389.19	0
EPA Northern Great Plains	49,264.16	58,367.01
EPA Public Water Supply System	196,819.95	287,362.51
EPA Solid Waste Plan	73,104.30	113,259.50
EPA Statewide 208 Plan	207,048.45	216,243.20
EPA Water Pollution Training Grant	5,249.72	3,150.28
EPA Water Pollution Control	298,945.00	283,804.62
Landfill Operators Training	18,246.22	8,625.78
LIDA Diagnostic X Ray	2,709.47	6,459.57
Research Trace Elements	85,933.28	159,993.87
EPA Water Surface Impoundment	0	24,863.38
Occupational Health OSHA	0	40,116.44
PSC Surface Mining Control	0	1,559.70
Total Environmental Health	1,132,532.40	1,521,848.70
Mental Health & Retardation		
Alcohol Formula Grant	160,885.00	236,447.53
Comprehensive Mental Health 314dm	66,792.00	78,031.27
Developmental Disabilities	147,825.00	238,701.84
Drug Abuse Formula Grant	82,695.00	184,439.50
Implementation of Uniform Alcohol Intoxication Treatment Act	175,250.00	192,250.00
State Alcohol Prevention Coordinator	1,528.00	0
Technical Assistance ADA	1,428.96	0
Total Mental Health & Retardation	636,403.96	929,870.14
TOTAL FEDERAL GRANTS AND OTHER FEDERAL FUNDS	$5,795,446.70	$7,631,748.08
OTHER FUNDS		
James River Project	1,073.36	926.64
Miscellaneous Research Vital Records	532.00	1,571.12
ND Board Exam. Nursing Homes	3,220.74	3,338.53
Regional Environmental Assessment Program	27,942.36	0
Robert Wood Johnson School Health	1,771.00	43,635.64
School Health	10,000.00	0
Dairy Testing	0	4,102.55
Indian Health Vital Records	0	44.00
North Dakota Continuing Health Education Resource Center	0	1,325.47
TOTAL OTHER FUNDS	$ 44,539.46	$ 54,943.95
GRAND TOTAL ALL FUNDS	$7,814,636.47	$9,858,440.94*
MENTAL HEALTH AND RETARDATION CENTERS	$1,114,972.07	$1,265,932.93

*Preliminary Report

Table 2
EXPENDITURES OF LOCAL FUNDS BY DISTRICT AND COUNTY
BOARDS OF HEALTH IN THE STATE OF NORTH DAKOTA
For the Fiscal Years Ending June 30, 1978 and June 30, 1979

LOCATION	FISCAL 1978	FISCAL 1979
DISTRICTS		
Custer District Health Unit	$ 87,022.19	$ 99,903.96
First District Health Unit	345,276.03	631,605.37
Lake Region District Health Unit	65,944.96	42,542.95
Southwestern District Health Unit	161,583.01	216,667.84
Upper Missouri District Health Unit	168,001.77	94,720.75
COUNTIES		
Barnes	6,970.91	0 *
Burleigh	12,037.67	12,512.42
Dickey	300.00	300.00
Emmons	300.00	300.00
Grand Forks	38,860.71	40,373.41
Griggs/Nelson	29,969.49	9,388.52
LaMoure	1,302.70	1,058.70
Logan	600.00	600.00
McIntosh	75.00	75.00
Pembina	24,390.59	29,108.82
Ransom	18,583.78	22,281.77
Richland	28,682.42	45,297.35
Rolette	300.00	318.40
Sargent	575.39	801.15
Steele	13,041.09	14,753.25
Towner	374.29	142.05
Traill	13,868.87	18,452.17
Walsh	20,951.04	27,727.50
Wells	1,475.00	1,500.00

*Barnes County combined with Valley City as a City County Health Unit

Table 3
EXPENDITURES OF LOCAL FUNDS BY CITY
BOARDS OF HEALTH IN THE STATE OF NORTH DAKOTA
For the Fiscal Years Ending June 30, 1978 and 1979

LOCATION	FISCAL 1978	FISCAL 1979
CITIES		
Bismarck	$249,027.76	$341,565.67
Cooperstown	2,273.06	983.59
Grafton	2,053.44	1,212.24
Grand Forks	101,273.90	109,827.20
Lidgerwood	50.00	75.00*
Mandan	4,199.92	4,417.66
Park River	37,408.55	43,614.03
Rugby	100.00	75.00
Valley City/Public School	23,474.16	**
Wahpeton	240.00	240.00
CITY COUNTY HALTH UNITS		
Central Valley Health Unit	52,036.06	33,912.27
Fargo Community Health	658,308.09	757,684.64
Barnes/Valley City	0	42,205.27

*Estimated expenditure
**Combined with Barnes County to make City County Health Unit

STATE HEALTH PLANNING AND DEVELOPMENT AGENCY

BIENNIAL REPORT
JULY 1, 1977 — JUNE 30, 1979

DIVISION OF STATE HEALTH PLANNING AND DEVELOPMENT

I. Introduction

The National Health Planning and Resource Development Act of 1974 (Public Law 93-641) was created with the intent of providing a mechanism for rational and orderly planning of health services. In North Dakota, the Act called for the creation of three Health Systems Agencies (HSAs), a State Health Planning and Development Agency (SHPDA) and a Statewide Health Coordinating Council (SHCC).

Contained in the pages that follow is a summary of the activities of the State Health Planning and Development Agency and Statewide Health Coordinating Council which collectively define the endeavors of the State Health Planning and Development Agency over the July 1, 1977 - June 30, 1979 biennium.

II. State Health Planning & Development Agency (SHPDA)

The State Health Planning and Development Agency (SHPDA) consisting of professional, clerical, and student intern staff members, was appointed on July 1, 1978 by Dr. Jonathan Weisbuch to administer both the Certificate of Need and the Health Planning programs. This appointment represented the consolidation of these two separate programs under the auspices of one agency. The agency was empowered with the following responsibilities:

— To prepare, review and revise annually a State Health Plan through the consolidation of the Health Systems Plans of the State's Health Systems Agencies.

— To assist the State Health Coordinating Council in its review of the State Medical Facilities Plan.

— To serve as North Dakota's designated planning agency for administration of Section 1122 of the Social Security Act and the State Certificate of Need program.

— To assist the State Health Coordinating Council in its administration of the Proposed Use of Federal Funds program.

— To provide support staff to the Statewide Health Coordinating Council for the performance of its overall functions.

State Health Planning and Development Agency Staff Activities Health Planning

The Preliminary State Health Plan (PSHP) was published in May of 1979. Contained in the 200 page document is an analysis of the health care system in North Dakota. Written from a population based perspective, the health status of the population is analyzed and its relation to available health services identified.

Through this analysis, it has been determined that the illnesses in North Dakota are primarily the result of lifestyle related problems (i.e. nutrition, smoking, etc.). Thus, the major health service needs in North Dakota have been identified as preventive measures and primary care services.

Proposed Use of Federal Funds (PUFF) Program

Public law 93-641 vested the State Health Planning and Development Agency with the responsibility of organizing a program for the review and approval/disapproval of the use of Federal funds by several health related agencies. Particular attention is to be directed to the **need** for proposed services and the **cost effectiveness** of the proposal in meeting those needs.

Over the biennium, the State Health Planning and Development Agency staff has begun working with the Statewide Health Coordinating Council toward the development of a Proposed Use of Federal Funds review manual in an effort toward implementing the program by July of 1980.

Certificate of Need

Title XV of Public Law 93-641 requires each State Health Planning and Development Agency to administer a Certificate of Need program satisfactory to the Secretary of Health, Education and Welfare.

The purpose of the Certificate of Need program is to promote the construction and development of necessary and appropriate health care facilities and services. Under the program, the State Health Planning and Development Agency reviews all proposed construction, expansion, or development of health care services through a health facility or health maintenance organization and makes approval/disapproval recommendations to the State Health Council.

Since July 1, 1977, 177 Notifications of Intent were received; 92 were determined to come within the purview of the Certificate of Need Law; 88 were determined to come within the purview of Section 1122; 83 were determined not to come within the purview of the Certificate of Need Law or Section 1122; 50 Certificate of Need and/or Section 1122 applications were reviewed and approved.

The total cost of those approved projects approximated $15,200,000; 36 involved acute care facilities (which included renovation of existing facilities, purchase of equipment, and new construction involving a change in number of beds), five acute beds were involved; nine involved nursing homes (renovation of existing facilities, purchase of equipment, and new construction involving a change in number of beds); 126 Intensive Care Facility beds were involved; two were disapproved ($650,000 estimated value of projects); seven involved specialized programs or facilities (mental health, addiction treatment, etc.). Eighty-five beds were involved. Sixteen involved a new service with a capital expenditure of less than $10,000.

Health Systems Agencies

The State Health Planning and Development Agency, as one of its many functions, works closely with the Health Systems Agencies in an effort to coordinate health planning activities throughout the State.

During the biennium, the grant applications of each of the three agencies were reviewed. Through the State Health Planning and Development Agencies recommendation, two were granted full designation by the Statewide Health Coordinating Council, and one was rejected and given continued conditional designation for the 1978 fiscal year. The State Health Planning and Development Agency staff members worked closely with the board and staff of the conditionally designated agency, coordinated corrective efforts and thereby in conjunction with the Statewide Health Coordinating Council granted full designation for the 1979 fiscal year.

1979 grant review surfaced problems in still another Health Systems Agency. The Health Systems Plan was remanded back to the agency by the Statewide Health Coordinating Council for rewrite. The State Health Planning and Development Agency is again currently, providing extensive technical assistance toward the rewrite effort.

The State Health Planning and Development Agency was ventured toward establishing planning guidance for the Health Systems Agencies. The first portion of the planning guidance document has been drafted in coordination with the Health Systems Agencies and reviewed by the Statewide Health Coordinating Council. Efforts in this area continue.

Manpower Programs

The Division of Health Planning continues to administer the two Department of Health, Education and Welfare programs — Loan Forgiveness and National Health Service Corps. The first program offers an incentive for a health professional to locate and practice in a health professional underserved area. If a health professional practices in a shortage area for at least three years, up to 85% of certain educational loans may be repaid by the Federal government. The latter program provides the op-

portunity for a community with a critical manpower shortage to apply for National Health Service Corps health professionals manpower.

A new program, "The North Dakota Health Sciences Placement Service" was established in the division in early 1977. In cooperation with Health Sciences Placement Service of the University of Minnesota the division is extending a computerized central clearinghouse of nine allied health professionals to North Dakota.

The major function of the Health Sciences Placement Service is to provide placement information — in particular, listings of applicants and opportunities relating to employing health professionals, assistants, and other auxiliary personnel.

Hettinger Health Maintenance Organization.

In an effort to promote health care cost containment in the State of North Dakota, the State Health Planning and Development Agency worked closely with the Hettinger, North Dakota community toward the establishment of a Health Maintenance Organization (HMO). The Hettinger Health Maintenance Organization, an organization of physicians that provide basic and supplemental health services to a group of enrolled members in exchange for a monthly premium, is currently in operation.

III. Statewide Health Coordinating Council (SHCC)

The State Health Planning and Development Agency provides assistance and support to the State Health Coordinating Council. The Statewide Health Coordinating Council is a 35 member body composed of 20 health care consumers and 15 providers. Appointments to the body are made by the Governor of North Dakota. Fourteen members are appointed "at large." The remaining 21 are chosen from the boards of each of the three State Health Systems Agencies (seven from each).

The division provides technical support in the form of direct staff contact with the Council members and its Committee. The State Health Planning and Development Agency staff provides technical information concerning Public Law 93-641 and its mandates on the performance of Statewide Health Coordinating Council functions.

Functions of the Statewide Health Coordinating Council can be summarized as the following:

— To review and coordinate the Health Systems Plans/Annual Implementation Plans of each Health Systems Agency.
— To review annually the budgets of each Health Systems Agency and the State Health Planning and Development Agency.
— To prepare, review, and revise as necessary a State Health Plan (SHP).
— To review annually and approve the State Medical Facilities Plan (SMFP).
— To review annually and approve or disapprove applications for Federal funds from specified state program agencies (Proposed Use of Federal Funds review).
— To advise the State Health Planning and Development Agency on the performance of its functions.

Statewide Health Coordinating Council Activities

Statewide Health Coordinating Council in the Aggregate

During the biennium (July 1, 1977 - June 30, 1979) the Statewide Health Coordinating Council met on eight occasions. Actions of the board, in chronological order, ending with the most recent pronouncements and listed below:

— The National Guidelines for Health Planning and the National Health Priorities were adopted as statewide issues. The Council acknowledged that adjustments to the Guidelines could be made by the Health Systems Agencies in their State Health Plans and by the State Health Planning and Development Agency/Statewide Health Coordinating Council in the State Health Plan if adequate justification could be established.
— Two State Health priorities, access to primary care and cost containment, were adopted as important considerations for all planning bodies within the State.
— Operating procedures were developed and approved.
— The grant application of the Agassiz Health Systems Agency was studied and approved.
— A plan development policy and flow chart for plan revision was accepted.
— The grant application of the Min-Dak Health Systems Agency was examined and approved.
— The State Health Planning and Development Agency grant application was appraised and accepted.
— The Health Systems Plan of the Western Health Systems Agency was analyzed and remanded back to the agency for revision.

Statewide Health Coordinating Council Subcommittees.

TheStatewide Health Coordinating Council established four committees:

The Executive Committee
The Plan Development Committee
The Project Review Committee
The Operating Procedures Committee

Executive Committee

The Executive Committee of the Statewide Health Coordinating Council met a total of 13 times during the biennium. The Executive Committee, composed of the Chairman, Vice-chairman, Secretary, Past Chairman, three Health Systems Agency representatives, and two at large members, forwarded recommendations to the aggregate Statewide Health Coordinating Council body on items such as those noted above.

Plan Development Committee

The Plan Development Committee, consisting of 11 Statewide Health Coordinating Council members, conducted eight meetings during the biennium. Emphasis was shifted from planning components to population based planning. A plan development policy was drafted for approval by the Statewide Health Coordinating Council. A series of sections of the Preliminary State Health Plan were analyzed and approved.

Project Review Committee

The Committee was named to administer the Proposed Use of Federal Funds program. The seven-member committee held its first meeting in May of 1979. One meeting followed in June. The Committee is currently engaged in educational and organizational sessions. Grant reviews will begin in July of 1980 for the 1981-82 fiscal year.

Operating Procedures Committee

There were no meetings during the 1978-1979 biennium.

SUPPORTIVE SERVICES

DIVISION OF
HEALTH PROGRAMS AND EDUCATION
OFFICE OF STATISTICAL SERVICES

DIVISION OF LABORATORIES

DIVISION OF HEALTH PROGRAMS AND EDUCATION

The Division of Health Programs and Education goals are: to develop quality health programs for North Dakota residents; to establish coordination and communication among health professionals, the general public, the State Health Department and other agencies regarding health programs and education; to promote preventive health behaviors through health education and the utilization of audiovisuals, brochures and publications; to determine areas in North Dakota which are in need of health services; and to develop programs to meet determined health services needs.

Health Programs

North Dakota was among four states selected to receive a five year grant from the Robert Wood Johnson Foundation. This was the largest private source of funds ever awarded the State of North Dakota. The $1.2 million grant is being used for two main purposes:

1. To train six registered nurses as school nurse practitioners. The Division of Health Programs and Education has contracted with the University of North Dakota, Family Nurse Practitioner Program, to educate the nurses and develop a curriculum specific to school nursing.

2. To place the six family nurse practitioners with specialization in school nursing, in the schools of Rolette and Kidder counties. They will be serving 4,000 school age children in 13 schools by: providing screening programs; diagnosis and treatment; referral to medical and dental resources; health counseling for children and parents; care for emergencies; and training for teachers, parents and children in preventive health education. The services of the school nurse will be provided with the support and consultation of a physician.

The schools which will receive the services of the nurses include: Tuttle, Steele, Robinson, Pettibone, Dawson, Tappen, Rolette, Rolla, St. John, Dunseith Day, Dunseith Public, Ojibwa Indian, and Turtle Mountain Community School.

Local advisory councils have been established in each community and a 25 member State School Health Services Advisory Council was formed. Membership is comprised of physicians, nurses, State Board of Nursing, State Nurses Association, county superintendents and principals, teachers, students, parents, the State Health Department, State Department of Public Instruction and the State Social Service Board.

In addition, a health curriculum, a dental program and training program in first aid techniques will be implemented in the schools.

Public Health Information

Public health information during the past biennium has been devoted to the education of health professionals, the general public, State Health Department personnel and other state agencies concerning departmental programs and preventive health measures. The department's 34 year old publication, NORTH DAKOTA HEALTH NEWS, appeared in a new 16 page format in September, 1977, and now is issued on a bimonthly basis to over 9,000 readers. The office carries out its informational responsibilities through close cooperation with the North Dakota news media and the dissemination of news releases and bulletins.

The State Health Department's biennial report is compiled by the public health information office and consultation services are available to personnel within the Health Department. The office coordinates public health information activities with other state agencies when programs involve multiagency participation. Additional activities include audiovisual presentation development and brochure development.

The office works closely with the North Dakota Continuing Health Education Resource Center by providing on-site supervision for the center's coordinator and by serving on the board of directors. The center came into being in 1978 and has operated with grant monies from the University of North Dakota Area Health Education Center. Its function is to serve as a clearing house for all information related to continuing education workshops, programs, seminars, meetings, etc. for health professionals.

Health Education

The purpose of Health Education is to create an awareness of personal and public health through specific health educational activities. Much of this work is coordinated with the North Dakota Lung Association, March of Dimes, American Heart Association, local health agencies and school districts.

The major program activities of Health Education include:

1. The Pierre the Pelican Child Care Program – A child care and safety education newsletter which is distributed each month for 18 months to parents of newborns. Information included in these newsletters are: stages of child development, nutrition and feeding, first aid and child safety. Over 86,170 newsletters were mailed.

2. Daniel Foster, M.D. television series – The Dr. Foster series is a panel discussion style television series consisting of 30 one hour programs (half hour segment followed by half hour panel discussion). The topics are health and medically oriented and are presented by North Dakota doctors and other health professionals. Prairie Public Television has been contracted to broadcast the program from Fargo.

3. Film Loan Library – The film loan library consists of 450 health related films, filmstrips and slides. These materials are used by schools, WIC programs, public health nurses, hospitals, child care programs, nursing homes, prenatal care programs, churches and health district staff throughout the state. Films were shown 10,048 times and viewed by an audience of 224,969.

4. Health Education Displays – Monthly national health themes are promoted in the form of displays and posters in the Legislative Wing, the information booth and on the 14th and 17th floors of the Capitol Building. In addition, news releases and public service announcements are mailed to newspapers and radio stations in North Dakota concerning each monthly health theme.

5. Inter-library Loans – Health Education has been associated with the Bismarck-Mandan Health Science Library Consortium and participates in a statewide inter-library loan system. Since inception of this program, 288 loans of health related books and periodicals have been made for North Dakota State Health Department staff members.

6. Health Education Materials Library – Health education brochures are available on 48 health related topics. This year an extensive Health Education Materials Catalog was printed listing approximately 1,000 brochures. Over 41,156 health related brochures were distributed to citizens, hospitals, churches, public health nurses, clinics, health districts and local health departments.

7. Graphic Services – Graphic services are provided for all state and local health programs. Illustrations include 945 drawings, maps, charts, designs for pamphlets and brochures.

8. Parent Resource Library – This program includes a collection of 350 books and catalogs containing practical information to help parents, teachers and those interested in the concerns of the handicapped.

Over 162 catalogs have been requested and 125 books were loaned to parents and teachers.

9. Journal Library – The table of contents from health education, nutrition and medical journals are distributed monthly to Health Department divisions. Staff members interested in specific articles may request copies from the library.

Over 317 articles have been copied and distributed.

OFFICE OF STATISTICAL SERVICES

INTRODUCTION

This biennial period has seen continuing enhancements and developments for this segment of the North Dakota State Department of Health.

The 1975-1977 biennial period saw the implementation of the new Health Statistics Act and accompanying administrative rules and regulations. During this biennium, several minor modifications have been made to the statute and regulations, most noticeably in the area of bringing vital statistics law into conformance with the Uniform Parentage Act and also in broadening regulations to permit additional access to those interested in doing family genealogy work.

On January 1, 1978, this Office implemented three new standard certificates in line with such changes being made nationwide. The new certificate forms were based on the U.S. Standard Certificate of Live Birth, Certificate of Death, and Certificate of Fetal Death. A new feature of the Death Certificate is the burial transit permit included as the third copy of the certificate. This innovative feature has permitted a more administrative efficient issuance of the burial transit permit.

During the biennium, major changes were made in the Vital Statistics Data Processing Systems to accommodate changes dictated by changing certificate forms, as well as to accommodate additional analytical capability. One important new analytical area that health statisticians will be looking at in the years ahead is multiple cause of death coding. In this report, as in the past, cause of death statistics have been limited to underlying cause of death. In future reports, we will start to look at multiple and contributory conditions in greater detail.

During this last biennium, an important foundation was laid for developing a comprehensive health manpower information system and an expanded health facilities data system. These new systems were developed with the cooperation of licensure boards, the University of North Dakota's Division of Continuing Education, the Division of Health Facilities, State Health Planning and Development Agency, and others. As these new data systems become fully operational during this current biennium, policy makers, planners, etc., will have a more comprehensive information source upon which to rely.

Further accomplishments and information will be dealt with in the sections dealing with the working divisions of the Office of Statistical Services (i.e., the Division of Vital Records and the Division of Health Statistics).

DIVISION OF VITAL RECORDS

The Division of Vital Records is the primary custodian of vital records for North Dakota, and, as such, is responsible for the registration, preservation, and certification of certificates of live birth, death, and fetal death, as well as the recording of reports of divorce and annulment, and the registration of copies of marriage licenses and certificates.

There continues to be an increased utilization of vital records. A very important function of the division is direct service to the public in the form of issuance of certified copies of vital records. Such copies are needed for such varied purposes as proof of age for medicare enrollment, social security and other retirement programs, applications for passports, school entrance or entering college, securing marriage licenses, establishing rights to certain programs (such as veteran's benefits), and to verify the facts of birth and death to official government agencies who require such information for the effective discharge of their administrative responsibilities. Copies of death certificates are needed to settle estates, collect on life insurance policies, and to trace genealogies, to name just a few.

Within the past several years, the volume of requests has increased substantially. The following table presents a summary of certified copy issuance, verification, and other services for the calendar years 1977 and 1978:

Table 4
SERVICES AND ACTIVITIES
Calendar Years 1977 and 1978

Direct Service	1977	1978
Certified Copies Issued:		
Birth	28,789	29,914
Death	11,158	12,763
Marriage	187	242
Delayed Registrations of Birth Filed	1,238	997
Free Verfications to Official Agencies	3,387	3,301
Searches (Certificate Not Found on File)	2,443	2,310
Corrections:		
Newborn Certificates	625	844
Other Birth Certificates	1,300	1,389
Death Certificates	250	300
Creation of New Birth Certificates (after adoption or legitimation of birth)	500	504
Processed for Permanent Filing:		
Live Birth Certificates	12,233	12,126
Death Certificates	5,498	5,688
Fetal Death (Stillbirth) Certificates	114	117
Marriage Licenses and Certificates	5,668	5,651
Reports of Divorce and Annulment	1,944	2,065
Reports of Adoption	413	430
Legitimations	77	74
Acknowledgments of Paternity	520	550
Court Orders of Change of Name	59	80
In addition, the following services were performed in the processing of vital records and issuance of certified copies:		
Individuals who called at office served	3,750	3,825
Telephone calls handled	7,550	7,775
Number of pieces of mail received	49,541	49,578
Number of pieces of mail sent out	45,778	45,980

The biennial period has seen several major accomplishments for the Office of Statistical Services in the vital records area. These accomplishments have led to greater efficiency in the processing of vital records, thus allowing the Division to improve services to the people of North Dakota, while at the same time assuming an increased workload precipitated by increasing demand for those services.

MICROFILM PROJECT

Due to the deteriorating condition of many of the older vital records and because such certificates can no longer tolerate the excessive handling required in the preparation of certified copies from the original certificates, the 1973 and 1975 Legislative Assemblies provided appropriations to the Department for the microfilming of vital records. Two important side benefits to this effort have been added security in terms of preservation of the records and a faster degree of service to the public in processing requests for certified copies.

The end of the 1975 1976 biennial period saw the major culmination of this project; however, birth and death records for events which occurred prior to 1908 were recorded in ledgers with approximately 40 entries to a page (the use of the individual certificate to record births and deaths began in 1908), and the Division has not yet completed the work of microfilming those records. It is anticipated that this project can be completed within the next biennium. Birth and death records dating from the institution of the original certificate form in 1908, marriage records from the state's earliest collection in 1925, and divorce reports dating from 1949, have been permanently captured on microfilm. The additional security and protection now afforded original records is a major factor in the record preservation process, and the use of micrographic techniques has greatly reduced our processing time.

RE INDEXING PROJECT

Coincident with the microfilming project, it was recognized that major deficiencies existed in many of our older indexes and that the speed of location of the record via a straight alphabetical search was too slow a process when coupled with the more rapid production of certified copies utilizing the microfilm system previously described. Many of the older index entries were prepared in the early years of departmental existence by temporary WPA and NYA help. These individuals were not generally acquainted with the need for careful attention to detail and accuracy; consequently, inconsistencies and inaccuracies arose in the preparation of these indexes.

The Division of Vital Records continues to be involved in a project designed to replace the currently existing alphabetical based card indexes with a computer based phonetic index based on the Russell Soundex Code. This project is being conducted under the technical supervision of the Division of Health Statistics. During the past biennium, a major portion of this effort has been completed, and it is anticipated that those areas of the birth and death indexing project not yet complete will be completed in the next biennium. Future plans call for on line access to these computer based index entries through the use of data terminals.

DIVISION OF HEALTH STATISTICS

INTRODUCTION

The Division of Health Statistics is a supportive division of the North Dakota State Department of Health. The Division's responsibilities are essentially centered in three primary areas: (1) technical consultation, (2) statistical analysis, and (3) data processing coordination.

The Division of Health Statistics provides technical consultation and support to other divisions of the Health Department. A primary area of support, for example, has included the design and development of a computerized indexing program concurrent with the microfilming of vital records conducted by the Department. Additional areas of technical support include form design, methods and procedures analysis, etc.

The Division is also engaged in statistical analysis. The primary area of analysis (and one covered in this report) is that concerned with information derived from vital records (i.e., records of birth, death, marriage, and divorce). In addition to this work, however, support is tendered to other divisions of the Health Department. Such support includes survey design, processing and procedural design, and actual involvement in data analysis. Another area of concern is the presentation of statistical materials for maximum effectiveness.

The Division also serves as the chief focal point for the coordination of the Department's data processing activities. Review of department data processing expenditures as well as consultation in the design of new data processing applications is a part of the responsibilities of the Division. What follows is the report of the Division of Health Statistics relative to the analysis of vital statistics information for calendar years 1977 and 1978.

STATISTICAL SECTION

The statistical tabulations presented in this section have been compiled from records of births, deaths, marriages, and divorces received by the Division of Vital Records and processed for statistical purposes by the Division of Health Statistics. The records received were for calendar years 1977 and 1978 and include only those records received for processing by May 1 of the year following the event. So few records pertaining to the calendar years in question were received after the respective cutoff dates that their omission from this report, for all intents and purposes, is statistically insignificant.

The majority of the tables included in this report are based upon a residence classification. A system of interstate exchange of certificates for statistical purposes permits the inclusion of birth and death tabulations based upon place of residence. Such information relative to events occurring to North Dakota residents in other states is particularly valuable.

The tabulation included in this section have been limited to those that were felt to be of general interest. Inquiries regarding additional data or analyses should be directed to the Director, Office of Statistical Services, North Dakota State Department of Health, Bismarck, North Dakota, 58505.

LIMITATIONS OF DATA

When making interpretations regarding the analysis of vital events data, one should always exercise an appropriate degree of caution and good judgment. The precise conditions that are inherent in a controlled experiment do not necessarily apply when we are dealing with vital events information. Some particular issues and points that are deserving of special emphasis are:

A potential for under registration of events always exists, although at present, this problem would appear to be minimal.

Misreporting of certain items of information may take place due mostly to a misunderstanding on the part of the informant as to what information is required and in what manner the information is to be reported.

At times, certain items of information may prove to be totally uncollectable for a variety of reasons.

Another very important limitation to be kept in mind in the analysis of vital records is that, in many cases, we are dealing with a limited number of observations (i.e., extremely small numbers). In such cases, unless the variability of the item in question is insignificant, the drawing of inferences and computation of descriptive statistics is statistically inappropriate.

When comparing rates, ratios, and the like for two different areas of the state or for two different periods of time, it is essential to remember that the populations that these computations are based upon may be widely divergent. This statement is particular-

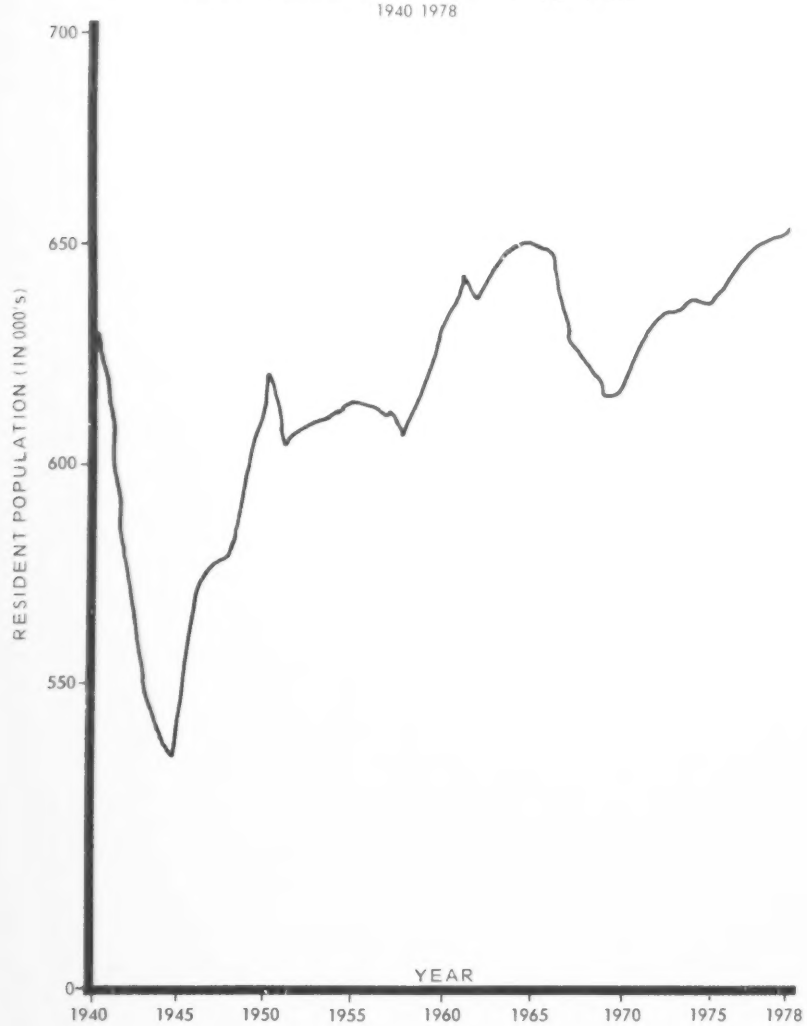
ly true with respect to the comparison of crude birth and death rates. Markedly different age distributions for two areas or periods of time may cause crude birth and death rates to be significantly different, when in reality, the mortality and fertility forces at work in the two respective areas or for the two periods of time may be quite similar.

In addition, cause of death statistics may not be directly comparable over long periods of time. Changes in the classification schemata for the underlying cause of death (The International Classification of Diseases) occur approximately every 10 years, largely as a result of changing diagnostic practices. For a further discussion of cause of death classification, please refer to pages 30 and 40 of the 41st Biennial Report of the North Dakota State Department of Health and/or the Monthly Vital Statistics Report, Vol. 17, No. 8, Supplemental, October 25, 1968, National Center for Health Statistics, Department of Health, Education, and Welfare.

POPULATION

North Dakota's estimated population as of July 1, 1978 was 652,000. The revised population estimate for July 1, 1977, was 650,000. The 652,000 residents estimated as of July 1, 1978, represent an increase of approximately 5.5 percent over the 617,761 individuals recorded as North Dakota residents during the 1970 Federal Decennial Census. North Dakota seems to have exhibited a slight upward trend in population since the 1940s (See Figure 1). Since 1970, Bureau of Census estimates indicate that North Dakota's population has been increasing. This marks a distinct reversal from the short term trend in the mid to late 1960s.

FIGURE 1
NORTH DAKOTA RESIDENT POPULATION
1940-1978



During the period of time, North Dakota's resident population was decreasing. The slight upward trend in North Dakota's population since 1970 is viewed with interest. It is particularly interesting when one notes that 47 of the State's 53 counties experienced a net loss of population from 1960 to 1970. County estimates for 1977 as published in Table 5, indicates that only 25 of the State's counties are continuing to lose population. The three fastest growing counties in the State appear to be Burleigh, Morton, and Mercer, while the three counties losing population at the fastest rate are Burke, Divide, and McIntosh.

Table 5
ESTIMATES OF THE POPULATION OF NORTH DAKOTA COUNTIES
July 1, 1977 and July 1, 1978*

COUNTY	July 1, 1978	July 1, 1977	April 1, 1970
NORTH DAKOTA	652,000	650,000	617,792
Adams	3,700	3,800	3,832
Barnes	13,600	13,700	14,669
Benson	8,300	8,400	8,245
Billings	1,100	1,100	1,198
Bottineau	9,700	9,900	9,496
Bowman	4,600	4,300	3,901
Burke	4,200	4,300	4,739
Burleigh	51,700	50,200	40,714
Cass	84,500	82,700	73,653
Cavalier	8,300	9,100	8,213
Dickey	7,500	7,400	6,976
Divide	4,300	4,200	4,564
Dunn	4,800	4,800	4,895
Eddy	3,700	3,800	4,103
Emmons	6,700	6,600	7,200
Foster	5,000	4,900	4,832
Golden Valley	2,500	2,600	2,611
Grand Forks	64,700	65,600	61,102
Grant	5,000	5,000	5,009
Griggs	4,100	4,100	4,184
Hettinger	4,900	4,700	5,075
Kidder	4,300	4,300	4,362
LaMoure	6,700	6,900	7,117
Logan	4,100	4,000	4,245
McHenry	8,500	8,600	8,977
McIntosh	4,900	5,100	5,545
McKenzie	6,300	6,200	6,127
McLean	12,900	12,200	11,251
Mercer	8,200	7,900	6,175
Morton	24,100	23,600	20,310
Mountrail	8,100	8,300	8,437
Nelson	5,500	5,900	5,807
Oliver	2,400	2,500	2,322
Pembina	10,400	11,000	10,728
Pierce	6,600	6,600	6,323
Ramsey	13,300	13,500	12,915
Ransom	7,200	7,200	7,102
Renville	3,700	3,700	3,828
Richland	19,300	18,900	18,089
Rolette	13,300	13,000	11,549
Sargent	5,800	6,000	5,937
Sheridan	3,000	3,300	3,232
Sioux	4,000	3,900	3,632
Slope	1,200	1,400	1,484
Stark	19,700	19,600	19,613
Steele	3,600	3,500	3,749
Stutsman	23,800	23,500	23,550
Towner	4,200	4,400	4,645
Traill	9,600	9,800	9,571
Walsh	16,300	16,700	16,251
Ward	61,200	60,900	58,560
Wells	7,200	7,300	7,847
Williams	19,700	19,400	19,301

*1978 estimaes are provisional

The county population estimates contained in this section are the product of a cooperative program between the State of North Dakota and the U.S. Bureau of the Census. After considerable testing, the estimates were prepared under the auspices of the Federal State Cooperative Program for Local Population Estimates by the Bureau of the Census and the Office of Statistical Services.

BIRTHS

Total resident live births number 11,450 and 11,347 in 1977 and 1978 respectively. The 1977 figure represents an increase of 6.8 percent from the 10,724 resident live births recorded for 1976, while the 1978 figure decreased approximately 0.1 percent. The crude birth rate for 1977 was 17.6, while the crude rate for 1978 was 17.4. The overall trend in live birth totals since the early to mid 1960s has been downward along with associated declines in general fertility rates.

The decline in births is not a phenomena that is unique to North Dakota. As can be seen from the information contained in Table 6, the trend experienced in North Dakota and the United States are quite similar.

Table 6
RESIDENT LIVE BIRTHS AND CRUDE BIRTH RATES
NORTH DAKOTA AND THE UNITED STATES
1965-1978

United States			North Dakota	
Births	Rates	Year	Births	Rates
3,760,358	19.4	1965	13,198	20.3
3,606,274	18.4	1966	12,159	18.7
3,520,959	17.8	1967	10,962	17.5
3,501,564	17.5	1968	10,631	17.0
3,600,206	17.8	1969	10,798	17.6
3,731,386	18.4	1970	11,004	17.8
3,555,970	17.2	1971	10,361	16.6
3,258,411	15.6	1972	10,115	16.0
3,136,965	14.9	1973	9,738	15.3
3,159,958	14.9	1974	10,010	15.7
3,144,198	14.8	1975	10,624	16.7
3,167,788	14.8	1976	10,724	16.7
3,313,000	15.3 pr.	1977	11,450	17.6
NA	NA	1978	11,347	17.4

Resident illegitimate births number 974 in 1977 and 961 in 1978. The illegitimate birth ratio for each of the years was 85.1 and 84.7 respectively. For a comparison of illegitimate births and ratios, refer to Table 7 or Figure 2.

Table 7
RESIDENT ILLEGITIMATE LIVE BIRTHS AND RATIOS
NORTH DAKOTA, 1965-1978

YEAR	ILLEGITIMATE BIRTHS	RATIO
1965	601	45.5
1966	641	52.7
1967	556	50.7
1968	659	62.0
1969	735	68.1
1970	748	68.0
1971	754	72.8
1972	819	81.0
1973	790	81.1
1974	768	76.7
1975	858	80.7
1976	904	84.3
1977	974	85.1
1978	961	84.7

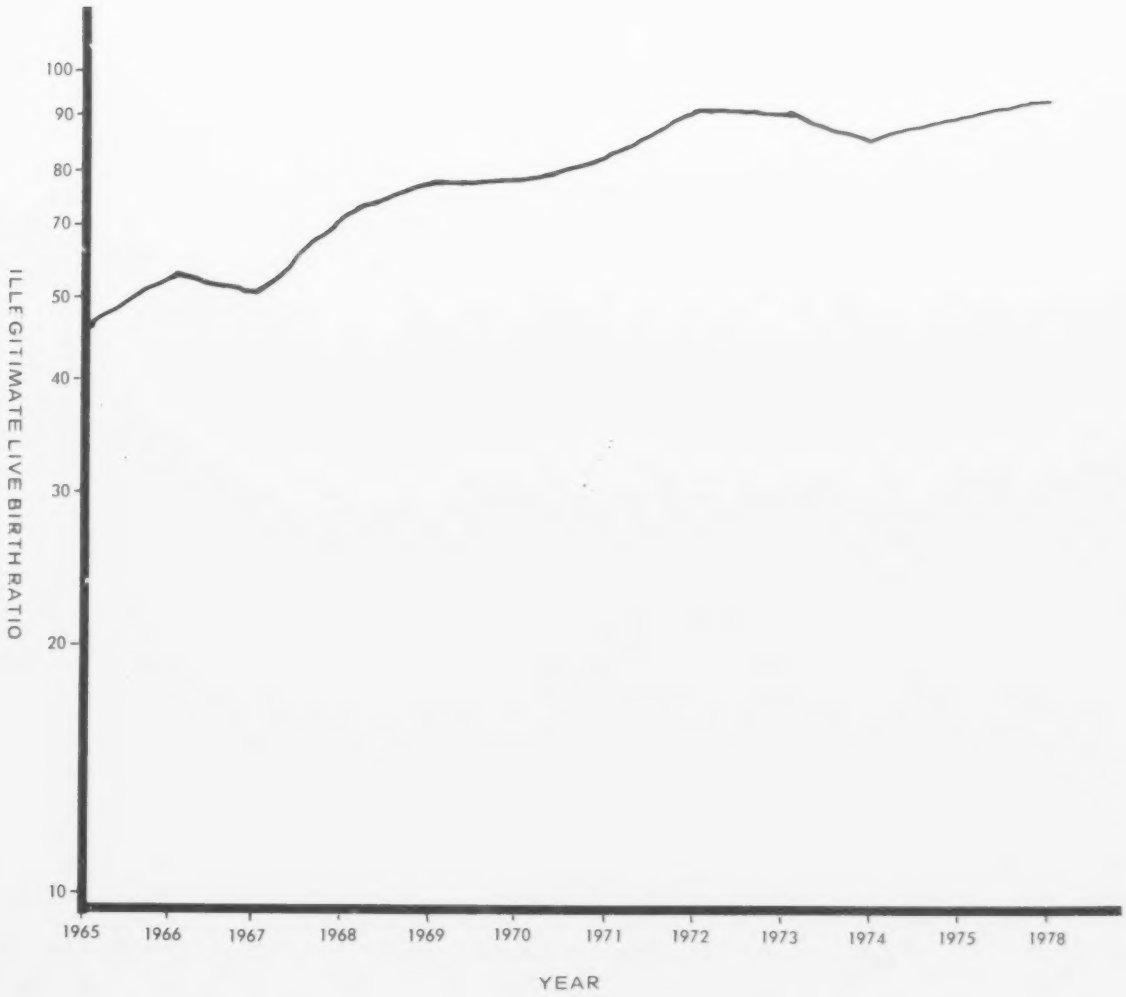
Table 8a
NORTH DAKOTA: RESIDENT ILLEGITIMATE
LIVE BIRTHS AND ILLEGITIMACY RATIO
BY AGE OF MOTHER, 1977

Age of Mother	Total Live Births	Illegitimate Births	Legitimacy Ratio
Under 15 years	12	12	1,000.0
15-19 years	1,455	508	349.1
20-24 years	4,392	323	73.5
25-29 years	3,787	87	23.0
30-34 years	1,333	30	22.5
35-39 years	375	12	32.0
40-44 years	93	2	21.5
45 years and over	3	-	-
TOTAL	11,450	974	85.1

Table 8b
NORTH DAKOTA: RESIDENT ILLEGITIMATE
LIVE BIRTHS AND ILLEGITIMACY RATIO
BY AGE OF MOTHER, 1978

Age of Mother	Total Live Births	Illegitimate Births	Legitimacy Ratio
Under 15 years	7	7	1,000.0
15 19 years	1,306	474	362.9
20 24 years	4,364	321	73.8
25 29 years	3,836	111	29.0
30 34 years	1,384	34	24.6
35 39 years	361	12	33.2
40 44 years	84	2	23.8
45 years and over	5		
TOTAL	11,347	961	84.7

FIGURE 2
RESIDENT ILLEGITIMATE LIVE BIRTH RATIO
NORTH DAKOTA
1965 1978



Male births number 5,898 (51.5 percent) and 5,845 (51.5 percent) in 1977 and 1978, while female births number 5,552 (48.5 percent) and 5,502 (48.5 percent).

White births among North Dakota residents represented 91.9 percent and 92.0 percent of all resident live births in 1977 and 1978.

Resident births of 2,500 grams or less (low weight) numbered 606 (5.3 percent) in 1977 and 597 (5.3 percent) in 1978. The English equivalent of 2,500 grams is 5 lbs. 8 oz.

There were 207 multiple births in 1977 and 239 multiple births in 1978 which occurred to women who were residents of the State of North Dakota. Of these, 12 were triplets for 1977 and 3 were triplets in 1978.

The number of first order live births occuring to North Dakota residents was 4,740 (41.4 percent) in 1977 and 4,599 (40.5 percent) in 1978. The continuing high percentage of first order births would appear to reinforce the trend observed in overall reductions in the general fertility rate.

Table 9a
NORTH DAKOTA: RESIDENT LIVE BIRTHS BY AGE OF MOTHER AND LIVE BIRTH ORDER, 1977

AGE OF MOTHER	LIVE BIRTH ORDER					
	TOTAL	1st	2nd	3rd	4th	5th or More
Under 15 years	12	12				
15 19 years	1,455	1,232	204	18	1	
20 24 years	4,392	2,277	1,642	388	77	8
25 29 years	3,787	1,038	1,569	829	254	97
30 34 years	1,333	153	344	428	232	176
35 39 years	375	24	49	77	84	141
40 44 years	93	4	2	10	14	63
45 years and over	3					3
TOTAL	11,450	4,740	3,810	1,750	662	488
Percent	100.0	41.4	33.3	15.3	5.8	4.3

NOTE: Percents may not add to 100.0 due to rounding

Table 9b
NORTH DAKOTA: RESIDENT LIVE BIRTHS BY AGE OF MOTHER AND LIVE BIRTH ORDER, 1978

AGE OF MOTHER	LIVE BIRTH ORDER						
	TOTAL	1st	2nd	3rd	4th	5th or More	Not Stated
Under 15 years	7	7					
15 19 years	1,306	1,101	190	15			
20 24 years	4,364	2,219	1,660	401	73	11	
25 29 years	3,836	1,075	1,559	833	269	99	1
30 34 years	1,384	164	386	452	228	153	1
35 39 years	361	26	48	84	67	136	
40 44 years	84	7	3	12	7	55	
45 years and over	5					5	
Total	11,347	4,599	3,846	1,797	644	459	2
Percent	100.0	40.5	33.9	15.8	5.7	4.0	

NOTE: Percents may not add to 100.0 due to rounding

DEATHS

In 1977, North Dakota recorded 5,498 deaths occurring in the State. In 1978, 5,688 such deaths were recorded as having occurred in North Dakota. Deaths of residents of North Dakota numbered 5,198 in 1977 and 5,484 in 1978.

The crude death rate for 1978 was 8.0 per 1,000 population. The crude death rate for 1978 stood at 8.4. The crude death rate has remained relatively static over the past 30 years in North Dakota.

The leading causes of death among North Dakota residents has remained relatively the same for 1977 and 1978. The "Big Four" (heart disease, malignant neoplasms, cerebrovascular diseases, and accidents) continued to account for nearly ¾ of deaths occurring to North Dakota residents during 1977 and 1978 (See Figure 3 and Table 10)

The single largest cause of death in North Dakota continues to be "acute myocardial infarction." Table 17 of this report presents a detailed summary of the frequency with which conditions are specified as the underlying cause of death on all death certificates.

Infant deaths number 159 in 1977 and 150 in 1978. The infant death rate for 1977 was 13.9 and for 1978 was 13.2. The lowest infant death rate recorded for North Dakota is 13.2 in 1978. A large proportion of all infant deaths occur within the first month of life and specifically during the first 24 hours of life.

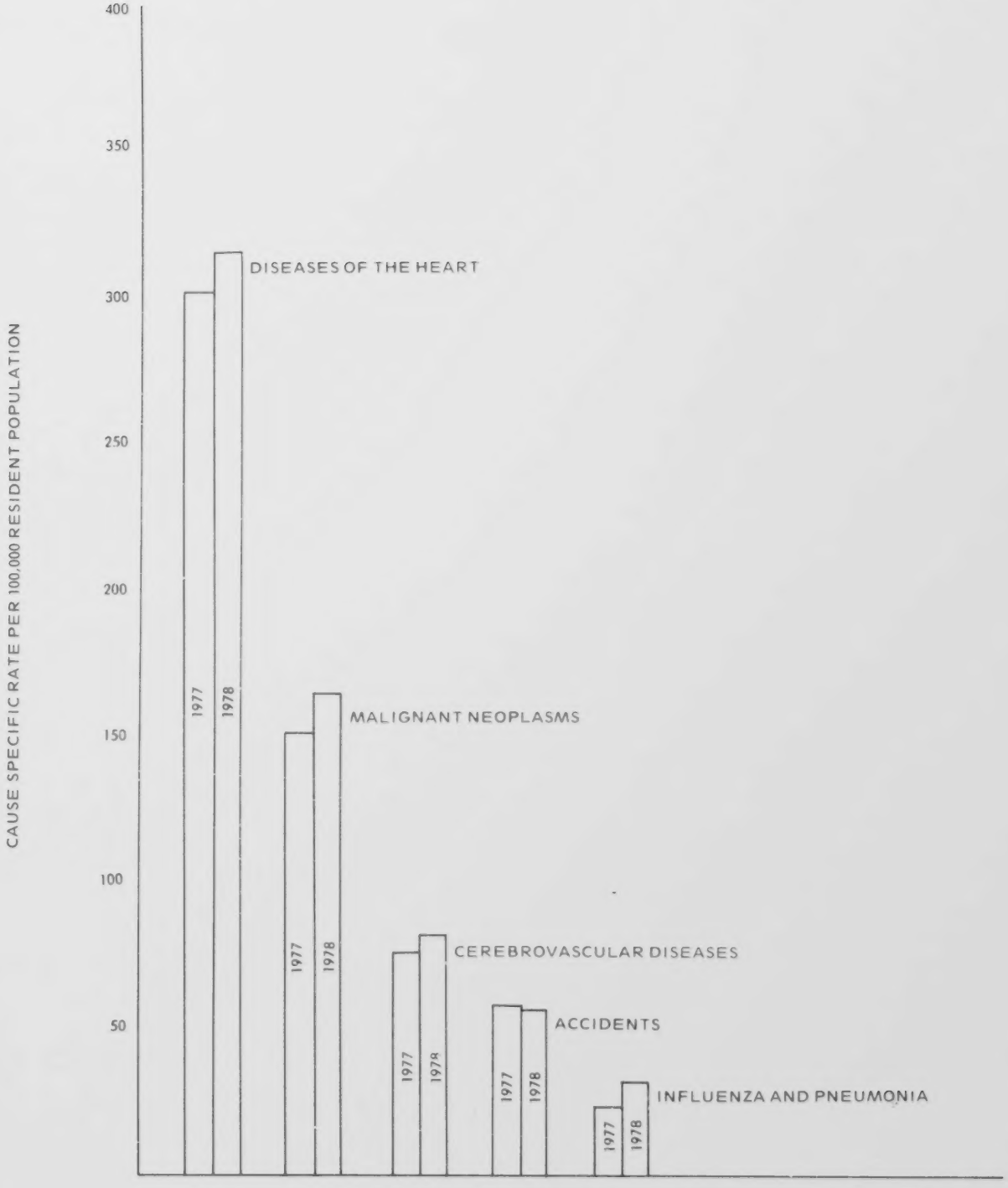
Accidental deaths continue to constitute a significant proportion of all deaths occurring in the State of North Dakota. 387 accidental deaths occurred in North Dakota in 1977, while the total increased to 393 in 1978. The major area of increase in the number of accidental deaths was in the area of motor vehicle traffic accident deaths. 205 such deaths occurred in 1977, while by 1978, the number of such deaths had increased to 211. Additional details regarding the nature and location of accidental deaths is included in the tabular materials found in Table 19a and Table 19b.

Two maternal deaths were recorded in 1977 and no such deaths were recorded in1978.

Table 10
LEADING CAUSES OF DEATH AND CAUSE SPECIFIC RATES: NORTH DAKOTA, 1977 & 1978

CAUSE OF DEATH	NORTH DAKOTA 1977			NORTH DAKOTA 1978		
	RANK	DEATHS	RATE	RANK	DEATHS	RATE
Diseases of the Heart	1	1,963	302.0	1	2,066	316.9
Malignant Neoplasms	2	987	151.9	2	1,079	165.5
Cerebrovascular Diseases	3	495	76.2	3	545	83.6
Accidents	4	381	58.6	4	372	57.1
Influenza and Pneumonia	5	159	24.5	5	219	33.6
Arteriosclerosis	6	117	18.0	6	95	14.6
Diabetes Mellitus	7	98	15.1	7	103	15.8
Certain Causes of Mortality in Early Infancy	8	90	13.9	8	69	10.9
Suicide	9	71	10.9	9	67	10.3
Cirrhosis of Liver	10	64	9.9	10	72	11.0
Bronchitis, Emphysema, and Asthma	10	64	9.9	11	42	6.4
All Other Causes		709			755	
TOTAL, ALL CAUSES		5,198			5,484	

Figure 3
CAUSE SPECIFIC DEATH RATES
LEADING CAUSES OF DEATH
1977 & 1978



MARRIAGES

In 1977, there were a total of 5,66[illegible] marriages performed in the State of North Dakota. The comparable figure for 1978 was 5,651 marriages. It should be kept in mind when one attempts to interpret marriage statistics that such events are based upon place of occurrence, rather than place of residence. Since no interstate system for the exchange of marriage information exists, these tabulations pertain only to the actual number of marriages that occurred in the State of North Dakota. Also, the county tabulations that are contained in Table 14a and Table 14b are based upon the county where the marriage was performed rather than the county of residence of the parties to the marriage. Additional detail regarding marriages performed in North Dakota is contained in the tabular material in Tables 11a and 11b.

Table 11a
MARRIAGES BY AGE OF BRIDE
AND BY AGE OF GROOM
NORTH DAKOTA, 1977

AGE OF GROOM	AGE OF BRIDE								
	Total	Under 20	20 24	25 29	30 39	40 49	50 59	60 69	70 and over
Under 20	559	445	112	2					
20 24	2,881	1,077	1,671	122	11				
25 29	1,211	159	671	312	64	5			
30 39	582	19	138	231	174	18	2		
40 49	209	3	13	29	81	71	9	2	
50 59	120			6	12	51	42	9	
60 69	68				1	7	24	30	6
70 and over	38					1		13	24
TOTAL	5,668	1,703	2,605	702	344	153	77	54	30

Table 11b
MARRIAGES BY AGE OF BRIDE
AND BY AGE OF GROOM
NORTH DAKOTA, 1978

AGE OF GROOM	AGE OF BRIDE								
	Total	Under 20	20 24	25 29	30 39	40 49	50 59	60 69	70 and over
Under 20	539	428	106	4	1				
20 24	2,801	997	1,659	128	16	1			
25 29	1,297	131	698	396	68	3			1
30 39	604	18	165	217	177	26	1		
40 49	184		13	18	80	67	6		
50 59	123		1	5	17	39	51	9	1
60 69	72					8	29	29	6
70 and over	31						2	12	17
TOTAL	5,651	1,574	2,642	768	359	144	89	50	25

DIVORCES

Total divorces and annulments number 1,952 in 1977 and 2,071 in 1978. These totals were the highest ever recorded for the State of North Dakota. Divorces continue to increase each year in North Dakota as well as the United States as a whole. As can be seen from Table 12, divorces occur not only among marriages of short duration, but also quite frequently among marriages of longer duration. As with marriages, divorce tabulations are not based upon county of residence of the parties involved, but rather upon the county where the decree was filed. For this reason, care should be exercised in the interpretation of county level divorce statistics.

Table 12
DIVORCES AND ANNULMENTS BY DURATION OF MARRIAGE AND CHILDREN PRESENT
NORTH DAKOTA, 1977 and 1978

DURATION OF MARRIAGE	1977 TOTAL No.	1977 TOTAL %	1977 WITH CHILDREN No.	1977 WITH CHILDREN %	1977 WITHOUT CHILDREN No.	1977 WITHOUT CHILDREN %	1978 TOTAL No.	1978 TOTAL %	1978 WITH CHILDREN No.	1978 WITH CHILDREN %	1978 WITHOUT CHILDREN No.	1978 WITHOUT CHILDREN %
Under 1 year	101	5.2	8	0.7	93	12.0	91	4.4	9	0.7	82	10.4
1 4 years	788	40.4	359	30.5	429	55.3	796	38.4	380	29.6	416	53.0
5 9 years	513	26.3	390	33.2	123	15.9	570	27.5	419	32.6	151	19.2
10 14 years	197	10.1	169	14.4	28	3.6	260	12.6	230	17.9	30	3.8
15 19 years	140	7.2	127	10.8	13	1.7	124	6.0	119	9.3	5	0.6
20 24 years	100	5.1	82	7.0	18	2.3	103	5.0	80	6.2	23	2.9
25 29 years	44	2.3	25	2.1	19	2.4	55	2.7	25	2.0	30	3.8
30 34 years	41	2.1	13	1.1	28	3.6	44	2.1	19	1.5	25	3.2
35 39 years	18	0.9	1	0.1	17	2.2	18	0.9	3	0.2	15	1.9
40 44 years	3	0.2			3	0.4	6	0.3			6	0.8
45 49 years	3	0.2			3	0.4	1	0.1			1	0.1
50 54 years	1	0.1			1	0.1	1	0.1			1	0.1
Not Stated	3	0.2	2	0.2	1	0.1	2	0.1	1	0.1	1	0.1
TOTAL	1,952	100.0*	1,176	100.0*	776	100.0*	2,071	100.0	1,285	100.0	786	100.0

*Totals may not add to 100.0 percent due to rounding.

Table 13
NORTH DAKOTA: RESIDENT BIRTHS, DEATHS, INFANT DEATHS, MATERNAL DEATHS, AND CRUDE RATES, 1940 1978

YEAR	ESTIMATED MIDYEAR POPULATION	BIRTHS NUMBER	BIRTHS RATE	DEATHS NUMBER	DEATHS RATE	INFANT DEATHS NUMBER	INFANT DEATHS RATE	MATERNAL DEATHS NUMBER	MATERNAL DEATHS RATE
1940	641,935	13,135	20.5	5,257	8.2	593	45.1	24	18.3
1945	546,000	13,147	24.1	5,109	9.4	385	29.3	14	10.6
1950	619,636	17,076	27.6	5,209	8.4	461	27.0	9	5.3
1955	615,000	17,239	28.0	5,270	8.6	433	25.1	6	3.5
1960	632,446	16,690	26.3	5,449	8.6	414	24.8	5	3.0
1961	642,000	16,615	25.9	5,274	8.2	382	23.0	6	3.6
1962	638,000	15,842	24.8	5,424	8.5	357	22.5	6	3.8
1963	646,000	15,257	23.6	5,516	8.5	379	24.8	2	1.3
1964	650,000	14,405	22.2	5,570	8.6	334	23.2	2	1.4
1965	651,000	13,198	20.3	5,579	8.6	279	21.1	3	2.3
1966	649,000	12,159	18.7	5,783	9.0	251	20.6	4	3.3
1967	628,000	10,962	17.5	5,401	8.6	229	20.9	3	2.7
1968	624,000	10,631	17.0	5,611	9.0	179	16.8	2	1.9
1969	615,000	10,798	17.6	5,595	9.1	179	16.8	-	-
1970	617,761	11,004	17.8	5,606	9.1	157	14.3	4	3.6
1971	628,000	10,361	16.5	5,591	8.9	158	15.2	1	1.0
1972	632,000	10,115	16.0	5,651	8.9	164	16.2	-	-
1973	635,000	9,738	15.3	5,789	9.1	160	16.4	3	3.1
1974	637,000	10,010	15.7	5,772	9.1	169	16.9	1	1.0
1975	637,000	10,624	16.7	5,482	8.6	156	14.7	2	1.9
1976	643,000	10,724	16.7	5,523	8.6	149	13.9	1	0.9
1977	650,000	11,450	17.6	5,198	8.0	159	13.9	2	1.7
1978	652,000	11,347	17.4	5,484	8.4	150	13.2	0	0

Figure 4
RESIDENT CRUDE BIRTH AND DEATH RATES
NORTH DAKOTA
1940-1978

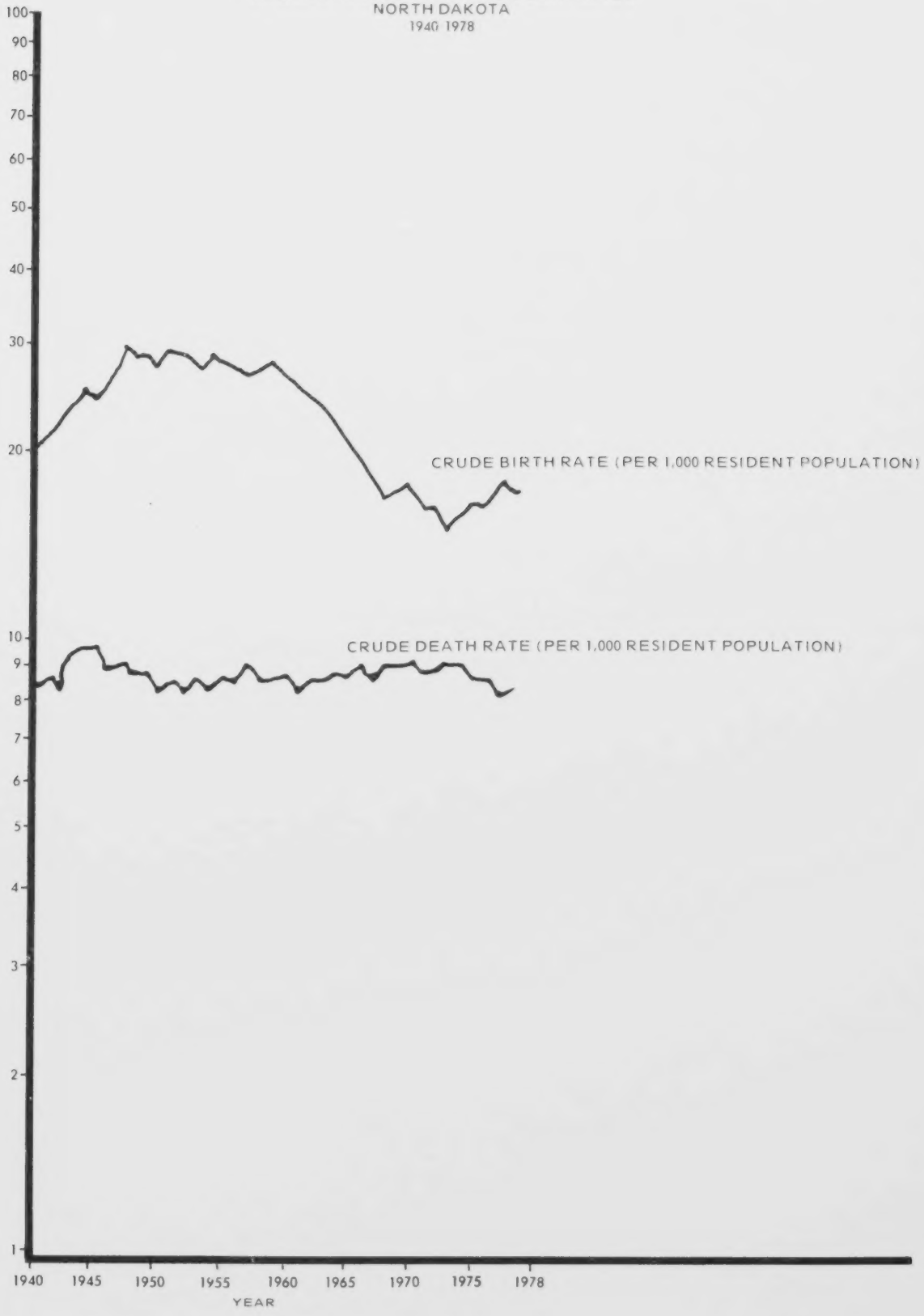


Table 14a
NORTH DAKOTA VITAL EVENTS BY COUNTY
1977

COUNTY	BIRTHS	DEATHS	MARRIAGES	DIVORCES
TOTAL	11,450	5,198	5,668	1,944
Adams	47	46	30	7
Barnes	220	137	130	40
Benson	163	77	61	8
Billings	9	9	7	1
Bottineau	146	103	66	9
Bowman	85	35	39	4
Burke	56	39	23	5
Burleigh	888	294	560	215
Cass	1,455	535	754	321
Cavalier	129	66	58	15
Dickey	115	89	63	15
Divide	50	36	34	14
Dunn	82	38	22	3
Eddy	53	57	48	6
Emmons	94	50	32	2
Foster	78	49	49	24
Golden Valley	37	23	22	5
Grand Forks	1,340	377	584	281
Grant	54	38	26	5
Griggs	64	40	32	3
Hettinger	68	47	32	1
Kidder	67	36	28	7
LaMoure	101	79	45	6
Logan	46	29	32	1
McHenry	117	79	50	14
McIntosh	58	55	29	5
McKenzie	102	58	46	18
McLean	225	118	91	24
Mercer	120	70	56	11
Morton	493	159	214	64
Mountrail	134	80	69	21
Nelson	63	66	39	3
Oliver	49	14	13	-
Pembina	192	119	75	12
Pierce	106	51	55	12
Ramsey	211	115	131	55
Ransom	111	73	52	18
Renville	44	40	22	1
Richland	304	184	152	50
Rolette	354	98	84	17
Sargent	101	69	40	9
Sheridan	46	36	26	3
Sioux	97	46	30	-
Slope	26	6	10	-
Stark	331	158	232	46
Steele	42	29	23	2
Stutsman	397	225	219	91
Towner	57	37	40	8
Traill	145	109	74	35
Walsh	264	172	118	29
Ward	1,372	348	655	318
Wells	106	90	56	10
Williams	336	165	190	70

Table 14b
NORTH DAKOTA VITAL EVENTS BY COUNTY
1978

COUNTY	BIRTHS	DEATHS	MARRIAGES	DIVORCES
TOTAL	11,347	5,484	5,651	1,065
Adams	56	47	31	11
Barnes	221	151	154	38
Benson	180	94	56	9
Billings	17	5	5	-
Bottineau	137	103	70	21
Bowman	76	43	39	7
Burke	65	46	27	5
Burleigh	952	265	553	206
Cass	1,373	560	787	372
Cavalier	113	83	65	20
Dickey	125	95	56	13
Divide	60	48	36	16
Dunn	59	34	22	2
Eddy	56	51	29	6
Emmons	79	52	44	-
Foster	72	61	32	12
Golden Valley	43	20	18	3
Grand Forks	1,316	383	624	325
Grant	66	52	21	2
Griggs	52	38	27	2
Hettinger	56	48	33	3
Kidder	61	44	27	10
LaMoure	87	79	40	9
Logan	40	33	13	2
McHenry	124	80	50	9
McIntosh	49	43	34	5
McKenzie	99	59	30	10
McLean	204	117	96	36
Mercer	142	72	70	13
Morton	461	194	240	67
Mountrail	153	85	68	12
Nelson	73	87	27	5
Oliver	42	18	17	1
Pembina	198	117	61	22
Pierce	92	54	51	19
Ramsey	233	140	130	53
Ransom	99	90	44	29
Renville	54	26	31	8
Richland	309	153	126	32
Rolette	323	121	87	11
Sargent	92	70	35	5
Sheridan	47	21	22	4
Sioux	114	44	25	-
Slope	19	7	5	2
Stark	393	177	229	78
Steele	47	38	24	1
Stutsman	414	214	223	92
Towner	67	54	35	6
Traill	155	123	58	38
Walsh	262	206	103	30
Ward	1,256	399	666	295
Wells	100	76	50	1
Williams	364	164	205	87

Table 15a
NORTH DAKOTA: SUMMARY OF RESIDENT LIVE BIRTHS
1977

ITEM	NUMBER	PERCENT
TOTAL	11,450	100.0
Sex:		
Male	5,898	51.5
Female	5,552	48.5
Race:		
White	10,519	91.9
Indian	646	5.6
Negro	100	0.9
Other	154	1.3
Unknown	31	0.3
Birth Weight:		
5 lbs. 8 oz. or less	606	5.3
5 lbs. 9 oz. or more	10,844	94.7
Not stated	-	-
Multiple Births:		
Single	11,243	98.2
Twin	195	1.7
Triplet	12	0.1
Live Birth Order:		
First Child	4,740	41.4
Second Child	3,810	33.3
Third Child	1,750	15.3
Fourth Child	662	5.8
Fifth Child	233	2.0
Sixth Child	114	1.0
Seventh Child	63	0.6
Eighth Child	37	0.3
Ninth Child or More	41	0.4
Unknown	-	-

NOTE: Percents may not add to 100.0 due to rounding

Table 15b
NORTH DAKOTA: SUMMARY OF RESIDENT LIVE BIRTHS
1978

ITEM	NUMBER	PERCENT
TOTAL	11,347	100.0
Sex:		
Male	5,845	51.5
Female	5,502	48.5
Race:		
White	10,435	92.0
Indian	745	6.6
Negro	87	.8
Other	80	.7
Unknown	-	-
Birth Weight:		
5 lbs. 8 oz. or less	597	5.3
5 lbs. 9 oz. or more	10,749	94.7
Not stated	1	-
Multiple Births:		
Single	11,108	97.9
Twin	236	2.1
Triplet	3	-
Live Birth Order:		
First Child	4,599	40.5
Second Child	3,846	33.9
Third Child	1,797	15.8
Fourth Child	644	5.7
Fifth Child	240	2.1
Sixth Child	100	.9
Seventh Child	48	.4
Eighth Child	30	.3
Ninth Child or More	41	.4
Unknown	2	-

NOTE: Percents may not add to 100.0 due to rounding

Table 16a
NORTH DAKOTA: NUMBER OF ILLEGITIMATE LIVE BIRTHS
BY COUNTY OF RESIDENCE AND RACE, 1977

COUNTY OF RESIDENCE	TOTAL	WHITE	INDIAN	NEGRO	OTHER
TOTAL	974	680	282	3	9
Adams	5	5	-	-	-
Barnes	15	15	-	-	-
Benson	43	6	36	1	-
Billings	1	1	-	-	-
Bottineau	12	11	1	-	-
Bowman	8	8	-	-	-
Burke	2	2	-	-	-
Burleigh	88	77	10	-	1
Cass	104	97	6	-	1
Cavalier	5	5	-	-	-
Dickey	6	6	-	-	-
Divide	1	1	-	-	-
Dunn	8	3	5	-	-
Eddy	4	3	1	-	-
Emmons	3	3	-	-	-
Foster	3	3	-	-	-
Golden Valley	2	2	-	-	-
Grand Forks	64	57	4	2	1
Grant	1	1	-	-	-
Griggs	3	3	-	-	-
Hettinger	4	4	-	-	-
Kidder	4	4	-	-	-
LaMoure	5	5	-	-	-
Logan	1	1	-	-	-
McHenry	12	12	-	-	-
McIntosh	3	3	-	-	-
McKenzie	12	5	7	-	-
McLean	21	7	14	-	-
Mercer	5	4	1	-	-
Morton	29	26	3	-	-
Mountrail	23	13	10	-	-
Nelson	3	3	-	-	-
Oliver	6	6	-	-	-
Pembina	21	18	-	-	3
Pierce	6	6	-	-	-
Ramsey	27	22	5	-	-
Ransom	10	10	-	-	-
Renville	1	1	-	-	-
Richland	19	18	1	-	-
Rolette	136	8	128	-	-
Sargent	4	4	-	-	-
Sheridan	2	2	-	-	-
Sioux	40	1	39	-	-
Slope	1	1	-	-	-
Stark	17	17	-	-	-
Steele	-	-	-	-	-
Stutsman	39	38	-	-	1
Towner	3	3	-	-	-
Traill	5	5	-	-	-
Walsh	19	19	-	-	-
Ward	78	69	7	-	2
Wells	6	6	-	-	-
Williams	34	30	4	-	-

Table 16b
NORTH DAKOTA: NUMBER OF ILLEGITIMATE LIVE BIRTHS
BY COUNTY OF RESIDENCE AND RACE, 1978

COUNTY OF RESIDENCE	TOTAL	WHITE	INDIAN	NEGRO	OTHER
TOTAL	961	651	304	2	4
Adams	5	5	-	-	-
Barnes	8	8	-	-	-
Benson	56	6	50	-	-
Billings	-	-	-	-	-
Bottineau	15	14	1	-	-
Bowman	6	6	-	-	-
Burke	5	5	-	-	-
Burleigh	77	73	3	-	1
Cass	91	79	10	1	1
Cavalier	10	9	1	-	-
Dickey	10	10	-	-	-
Divide	5	5	-	-	-
Dunn	5	2	3	-	-
Eddy	3	3	-	-	-
Emmons	1	1	-	-	-
Foster	7	7	-	-	-
Golden Valley	1	1	-	-	-
Grand Forks	69	65	4	-	-
Grant	5	5	-	-	-
Griggs	2	2	-	-	-
Hettinger	1	1	-	-	-
Kidder	6	5	1	-	-
LaMoure	-	-	-	-	-
Logan	1	1	-	-	-
McHenry	6	6	-	-	-
McIntosh	1	1	-	-	-
McKenzie	8	4	4	-	-
McLean	23	13	10	-	-
Mercer	3	3	-	-	-
Morton	35	32	3	-	-
Mountrail	28	6	22	-	-
Nelson	3	3	-	-	-
Oliver	2	2	-	-	-
Pembina	17	17	-	-	-
Pierce	6	6	-	-	-
Ramsey	24	14	10	-	-
Ransom	4	4	-	-	-
Renville	1	1	-	-	-
Richland	18	17	1	-	-
Rolette	122	9	113	-	-
Sargent	13	13	-	-	-
Sheridan	2	2	-	-	-
Sioux	49	1	48	-	-
Slope	1	1	-	-	-
Stark	20	18	2	-	-
Steele	2	2	-	-	-
Stutsman	22	22	-	-	-
Towner	3	2	1	-	-
Traill	5	4	-	-	1
Walsh	29	28	1	-	-
Ward	81	70	9	1	1
Wells	5	5	-	-	-
Williams	39	32	7	-	-

Table 17
RESIDENT NORTH DAKOTA DEATHS BY CAUSE
1977-1978

ICDA LIST NO.	CAUSE OF DEATH	1977	1978
	GRAND TOTAL	5,198	5,484
000-136	INFECTIVE AND PARASITIC DISEASES	43	35
000-009	Intestinal infectious diseases	12	9
008	Enteritis due to other specified organism	1	-
009	Diarrheal disease	11	9
010-019	Tuberculosis	3	-
011	Pulmonary tuberculosis	1	-
019	Late effects of tuberculosis	2	-
030-039	Other bacterial diseases	15	17
034	Streptococcal sore throat and scarlet fever	1	-
038	Septicemia	13	14
039	Other bacterial diseases	1	3
040-046	Poliomyelitis and other enterovirus diseases of central nervous system	1	-
044	Late effects of acute poliomyelitis	1	-
050-057	Viral diseases accompanied by exanthem	4	-
052	Chickenpox	1	-
053	Herpes zoster	1	-
054	Herpes simplex	2	-
060-068	Arthropod borne diseases	-	1
065	Viral encephalitis transmitted by other arthropods	-	1
070-079	Other viral diseases	4	2
070	Infectious hepatitis	1	-
079	Other viral diseases	3	2
110-117	Mycoses	3	4
112	Moniliasis	1	2
116	Blastomycosis	1	1
117	Other systemic mycosis	1	1
130-136	Other infective and parasitic diseases	1	2
135	Sarcoidosis	1	1
136	Other and unspecified infective and parasitic diseases	-	1
140-239	NEOPLASMS	994	1,086
141-149	Malignant neoplasm of buccal cavity and pharynx	14	13
141	Of tongue	1	1
142	Of salivary gland	2	1
143	Of gum	-	2
144	Of floor of mouth	2	-
145	Of other and unspecified parts of mouth	3	1
146	Of oropharynx	1	-
147	Of nasopharynx	-	1
148	Of hypopharynx	1	2
149	Of pharynx, unspecified	4	5
150-159	Malignant neoplasm of digestive organs and peritoneum	304	342
150	Of esophagus	18	25
151	Of stomach	54	54
152	Of small intestine, including duodenum	1	5
153	Of large intestine, except rectum	101	133
154	Of rectum and rectosigmoid junction	27	31
155	Of liver and intrahepatic bile ducts, specified as primary	12	7
156	Of gallbladder and bile ducts	30	18
157	Of pancreas	58	67
158	Of peritoneum and retroperitoneal tissue	1	2
159	Of unspecified digestive organs	2	-
160-163	Malignant neoplasm of respiratory system	166	202
160	Of nose, nasal cavities, middle ear, and accessory sinuses	2	2
161	Of larynx	6	10
162	Of trachea, bronchus, and lung	156	189
163	Of other and unspecified respiratory organs	2	1

Table 17 (cont.)
RESIDENT NORTH DAKOTA DEATHS BY CAUSE
1977-1978

ICDA LIST NO.	CAUSE OF DEATH	1977	1978
170-174	Malignant neoplasm of bone, connective tissue, and breast	115	132
170	Of bone	5	9
171	Of connective and other soft tissue	4	4
172	Of skin	8	10
173	Other malignant neoplasm of skin	2	2
174	Of breast	96	107
180-189	Malignant neoplasm of genitourinary organs	194	189
180	Of cervix uteri	7	10
182	Other of uterus	19	15
183	Of ovary, Fallopian tube, an broad ligament	32	37
184	Of other and unspecified female genital organs	1	4
185	Of prostate	70	68
186	Of testis	5	3
187	Of other and unspecified male genital organs	4	1
188	Of bladder	23	20
189	Of other and unspecified urinary organs	33	31
190-199	Malignant neoplasm of other and unspecified sites	76	84
190	Of eye	4	2
191	Of brain	25	30
192	Of other part of nervous system	2	6
193	Of thyroid gland	3	2
194	Of other endocrine glands	1	-
195	Of ill defined sites	7	6
197	Secondary of respiratory and digestive systems	13	11
198	Other secondary	2	5
199	Without specifications of site	19	22
200-209	Neoplasms of lymphatic and hematopoietic tissue	118	117
200	Lymphosarcoma and reticulum cell sarcoma	23	16
201	Hodgkin's disease	6	10
202	Other neoplasms of lymphoid tissue	18	19
203	Multiple myeloma	23	15
204	Lymphatic leukemia	14	11
205	Myeloid leukemia	22	32
206	Monocytic leukemia	3	3
207	Other and unspecified leukemia	5	8
208	Polycythemia vera	1	1
209	Myelofibrosis	3	2
210-228	Benign neoplasms	3	4
211	Benign neoplasms of other parts of digestive system	-	2
213	Benign neoplasm of bone and cartilage	1	-
218	Uterine fibroma	1	-
225	Benign neoplasm of brain and other parts of nervous system	1	1
226	Benign neoplasm of endocrine glands	-	1
230-239	Neoplasm of unspecified nature	4	3
230	Neoplasm of unspecified nature of digestive organs	-	1
231	Neoplasm of unspecified nature of respiratory organs	-	1
238	Neoplasm of unspecified nature of eye, brain, and other parts of nervous system	3	-
239	Neoplasm of unspecified nature of other unspecified organs	1	1
240-279	ENDOCRINE, NUTRITIONAL, AND METABOLIC DISEASES	113	123
240-246	Disease of the thyroid gland	1	2
244	Myxedema	1	2
250-258	Disease of other endocrine glands	101	108
250	Diabetes mellitus	98	103
252	Diseases of parathyroid gland	-	1
253	Diseases of pituitary gland	-	2
255	Diseases of adrenal glands	1	-
258	Polyglandular dysfunction and other diseases of endocrine glands	2	2
260-269	Avitaminoses and other nutritional deficiency	7	8
268	Nutritional marasmus	2	2
269	Other nutritional deficiency	5	6
270-279	Other metabolic diseases	4	5
270	Congenital disorders of amino-acid metabolism	-	1
273	Other and unspecified congenital disorders of metabolism	-	2

Table 17 (cont.)
RESIDENT NORTH DAKOTA DEATHS BY CAUSE
1977 1978

ICDA LIST NO	CAUSE OF DEATH	1977	1978
276	Amyloidosis	1	1
277	Obesity not specified as of endocrine origin	2	1
279	Other unspecified metabolic diseases	1	-
280 289	DISEASES OF THE BLOOD AND BLOOD FORMING ORGANS	16	15
280	Iron deficiency anemias	2	1
281	Other deficiency anemias	-	1
283	Acquired hemolytic anemias	-	1
284	Aplastic anemia	7	3
285	Other unspecified anemias	3	2
286	Coagulation defects	3	3
287	Purpura and other hemorrhagic conditions	1	2
288	Agranulocytosis	-	1
289	Other diseases of blood and blood forming organs	-	1
290 315	MENTAL DISORDERS	29	27
290 299	Psychoses	7	6
290	Senile and pre senile dementia	3	5
291	Alcoholic psychosis	2	1
295	Schizophrenia	2	-
300 309	Neuroses, personality disorders, and non psychotic mental disorders	22	21
303	Alcoholism	18	13
304	Drug dependence	-	1
309	Mental disorders not specified as psychotic associated with physical conditions	4	7
320 389	DISEASES OF NERVOUS SYSTEM AND SENSE ORGANS	42	60
320 324	Inflammatory diseases of the central nervous system	3	2
320	Meningitis	2	1
322	Intracranial and intraspinal abscess	-	1
323	Encephalitis, myelitis, and encephalomyelitis	1	-
330 333	Hereditary and familial diseases of nervous system	2	6
330	Hereditary neuromuscular disorders	2	5
333	Other hereditary and familial diseases of nervous system	-	1
340 349	Other diseases of central nervous system	37	49
340	Multiple sclerosis	8	8
341	Other demyelinating diseases of central nervous system	-	1
342	Paralysis agitans	11	9
343	Cerebral spastic infantile paralysis	-	1
344	Other cerebral paralysis	-	1
345	Epilepsy	6	9
347	Other diseases of the brain	4	9
348	Motor neurone disease	7	-
349	Other diseases of the spinal cord	1	-
350 358	Diseases of nerves ad peripheral ganglia	-	3
354	Polyneuritis and polyradiculitis	-	2
357	Other diseases of peripheral nerves except autonomic	-	1
390 458	DISEASES OF THE CIRCULATORY SYSTEM	2,723	2,862
390 398	Active rheumatic fever and chronic rheumatic heart disease	37	42
394	Diseases of the mitral valve	13	14
395	Diseases of the aortic valve	13	12
396	Diseases of mitral and aortic valves	2	3
397	Diseases of other endocardial structures	3	5
398	Other heart diseases, specified as rheumatic	6	8
400 404	Hypertensive disease	47	43
400	Malignant hypertension	1	2
401	Essential benign hypertension	5	2
402	Hypertensive heart disease	23	16
403	Hypertensive renal disease	12	11
404	Hypertensive heart and renal disease	6	12
410 414	Ischemic heart disease	1,682	1,784
410	Acute myocardial infarction	1,054	1,091

Table 17 (cont.)
RESIDENT NORTH DAKOTA DEATHS BY CAUSE
1977-1978

ICDA LIST NO	CAUSE OF DEATH	1977	1978
411	Other acute and subacute forms of ischemic heart disease	-	5
412	Chronic ischemic heart disease	628	688
420-429	Other forms of heart disease	215	212
421	Acute and subacute endocarditis	1	2
422	Acute myocarditis	2	2
423	Chronic disease of pericardium, nonrheumatic	2	4
424	Chronic disease of endocardium	2	3
425	Cardiomyopathy	7	8
426	Pulmonary heart disease	2	3
427	Symptomatic heart disease	170	170
428	Other myocardial insufficiency	4	4
429	Ill defined heart disease	25	16
430-438	Cerebrovascular disease	495	545
430	Subarachnoid hemorrhage	25	26
431	Cerebral hemorrhage	73	55
432	Occlusion of precerebral arteries	7	11
433	Cerebral thrombosis	76	83
434	Cerebral embolism	-	1
436	Active but ill defined cerebrovascular disease	234	249
437	Generalized ischemic cerebrovascular disease	75	106
438	Other and ill-defined cerebrovascular disease	5	14
440-448	Disease of arteries, arterioles, and capillaries	190	191
440	Arteriosclerosis	117	95
441	Aortic aneurysm (nonsyphilitic)	41	50
442	Other aneurysm	3	1
443	Other peripheral vascular disease	5	3
444	Arterial embolism and thrombosis	17	21
445	Gangrene	4	13
446	Polyarteritis nodosa and allied conditions	-	6
447	Other diseases of arteries and arterioles	3	2
450-458	Diseases of the veins and lymphatics, and other diseases of circulatory system	57	45
450	Pulmonary embolism and infarction	36	20
451	Phlebitis and thrombophlebitis	1	7
453	Other venous embolism and thrombosis	10	12
454	Varicose veins of lower extremities	1	1
456	Varicose veins of other sites	1	1
458	Other diseases of circulatory system	8	4
460-519	DISEASES OF THE RESPIRATORY SYSTEM	299	356
460-466	Acute respiratory infections, except influenza	6	7
463	Acute tonsillitis	1	-
464	Acute laryngitis and tracheitis	3	2
465	Acute upper respiratory infection of multiple or unspcified sites	1	1
466	Acute bronchitis and bronchiolitis	1	4
470-474	Influenza	5	20
470	Influenza, unqualified	3	8
471	Influenza with pneumonia	1	12
472	Influenza with other respiratory manifestations	1	-
480-486	Pneumonia	154	199
480	Viral pneumonia	1	2
481	Pneumococcal pneumonia	7	13
482	Other bacterial pneumonia	4	11
484	Acute interstitial pneumonia	1	-
485	Bronchopneumonia, unspecified	61	62
486	Pneumonia, unspecified	80	111
490-493	Bronchitis, emphysema, asthma	64	42
490	Bronchitis, unqualified	3	1
491	Chronic bronchitis	9	3
492	Emphysema	46	33
493	Asthma	6	5
500-508	Other diseases of the respiratory tract	-	3
500	Hypertrophy of tonsils and adenoids	-	1

Table 17 (cont.)
RESIDENT NORTH DAKOTA DEATHS BY CAUSE
1977-1978

ICDA LIST NO	CAUSE OF DEATH	1977	1978
501	Peritonsillar abscess	-	1
508	Other diseases of the respiratory tract	-	1
510-519	Other diseases of respiratory system	70	85
510	Emphysema	-	1
511	Pleurisy	2	-
512	Spontaneous pneumonthorax	1	1
513	Abscess of lung	1	1
514	Pulmonary congestion and hypostasis	3	7
517	Other chronic interstitial pneumonia	7	5
518	Bronchiectasis	2	1
519	Other diseases of respiratory system	54	69
520-577	DISEASES OF THE DIGESTIVE SYSTEM	172	176
530-537	Diseases of esophagus, stomach, and duodenum	23	30
530	Diseases of esophagus	2	5
531	Ulcer of stomach	5	8
532	Ulcer of duodenum	8	7
533	Peptic ulcer, site unspecified	4	4
534	Gastrojejunal ulcer	-	2
535	Gastritis and duodenitis	3	1
536	Disorders of function of stomach	-	1
537	Other diseases of stomach and duodenum	1	2
540-543	Appendicitis	3	-
540	Acute appendicitis	3	-
550-553	Hernia of abdominal cavity	7	9
550	Inguinal hernia without mention of obstruction	-	1
551	Other hernia of abdominal cavity without mention of obstruction	3	2
552	Inguinal hernia with obstruction	1	1
553	Other hernia of abdominal cavity with obstruction	3	5
560-569	Other diseases of intestine and peritoneum	48	33
560	Intestinal obstruction without mention of hernia	17	8
562	Diverticula of intestine	9	5
563	Chronic enteritis and ulcerative colitis	2	3
564	Functional disorders of intestines	1	-
567	Peritonitis	1	1
568	Peritoneal adhesions	1	2
569	Other diseases of intestine and peritoneum	17	14
570-577	Diseases of liver, gallbladder, and pancreas	91	104
570	Acute and subacute necrosis of liver	1	1
571	Cirrhosis of liver	64	72
572	Suppurative hepatitis and liver abscess	1	-
573	Other diseases of liver	6	8
574	Cholelithiasis	5	6
575	Cholecystitis and cholangitis, without mention of calculus	4	8
576	Other diseases of gallbladder and biliary ducts	2	-
577	Diseases of pancreas	8	9
580-629	DISEASES OF THE GENITOURINARY SYSTEM	63	67
580-584	Nephritis and nephrosis	20	23
580	Acute nephritis	3	5
581	Nephrotic syndrome	1	1
582	Chronic nephritis	12	15
583	Nephritis, unqualified	4	2
590-599	Other diseases of urinary system	39	35
590	Infections of the kidney	10	8
591	Hydronephrosis	-	1
592	Calculus of kidney and ureter	-	1
593	Other diseases of kidney and ureter	18	13
594	Calculus of other parts of urinary system	1	-
595	Cystitis	2	2
596	Other diseases of the bladder	1	-
598	Stricture of urethra	1	1
599	Other diseases of the urinary tract	6	9
600-607	Diseases of the male genital organ	3	7

Table 17 (cont.)
RESIDENT NORTH DAKOTA DEATHS BY CAUSE
1977-1978

ICDA LIST NO	CAUSE OF DEATH	1977	1978
600	Hyperplasia of prostate	3	6
601	Prostatitis	-	1
610-616	Diseases of breast, ovary, Fallopian tube, and parametrium	1	-
616	Diseases of parametrium and pelvic peritoneum (female	1	-
620-629	Diseases of the uterus and other female genital organs	-	2
623	Uterovaginal prolapse	-	1
629	Other diseases of female genital organs	-	1
630-678	COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM	2	-
630-634	Complications of pregnancy	2	-
631	Ectopic pregnancy	1	-
634	Other complications of pregnancy	1	-
680-709	DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE	6	1
680-686	Infections of the skin and subcutaneous tissue	1	1
686	Other local infections of skin and subcutaneous tissue	1	1
700-709	Other diseases of skin and subcutaneous tissue	5	-
707	Chronic ulcer of skin	5	-
710-738	DISEASES OF MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE	16	22
710-718	Arthritis and rheumatism, except rheumatic fever	10	12
712	Rheumatoid arthritis and allied conditions	3	6
713	Osteoarthritis and allied conditions	4	3
714	Other specified forms of arthritis	-	1
715	Arthritis, unspecified	3	1
716	Polymyositis and dermatomyositis	-	1
720-729	Osteomyelitis and other diseases of bone and joint	2	7
721	Osteitis deformans	-	2
723	Other diseaes of the bone	1	2
729	Other diseases of joint	1	3
730-738	Other diseases of musculoskeletal system	4	3
733	Other diseases of muscle, tendon, and fascia	-	1
734	Diffuse diseases of connective tissue	2	1
735	Curvature of spine	2	1
740-759	CONGENITAL ANOMALIES	39	51
740-759	Congenital anomalies	39	51
740	Anencephalus	4	2
741	Spina bifida	3	5
742	Congenital hydrocephalus	2	-
743	Other congenital anomalies of nervous system	2	-
746	Congenital anomalies of heart	10	24
747	Other congenital anomalies of circulatory system	3	4
748	Congenital anomalies of respiratory system	1	4
751	Other congenital anomalies of digestive system	-	4
753	Congenital anomalies of urinary system	3	2
756	Other congenital anomalies of musculoskeletal system	5	3
758	Other and unspecified congenital anomalies	-	1
759	Congenital syndromes affecting multiple systems	6	2
760-779	CERTAIN CAUSES OF PERINATAL MORBIDITY AND MORTALITY	90	69
760-779	Certain causes of perinatal morbidity and mortality	90	69
761	Other maternal conditions unrelated to pregnancy	-	1
762	Toxemia of pregnancy	-	1
763	Maternal ante — and intrapartum infection	-	1
766	Difficult labor with malposition of fetus	2	1
768	Difficult labor with other and unspecified complications	1	1
769	Other complications of pregnancy and childbirth	15	17
770	Conditions of placenta	3	7
771	Conditions of umbilical cord	1	-
772	Birth injury without mention of cause	3	2
774	Hemolytic disease of newborn with kernicterus	-	1

Table 17 (cont.)
RESIDENT NORTH DAKOTA DEATHS BY CAUSE
1977-1978

ICDA LIST NO	CAUSE OF DEATH	1977	1978
775	Hemolytic disease of newborn without mention of kernicterus	1	1
776	Anoxic and hypoxic conditions not elsewhere classifiable	42	21
777	Immaturity, unqualified	17	9
778	Other conditions of fetus or newborn	5	6
780-796	SYMPTOMS AND ILL-DEFINED CONDITIONS	79	78
780-789	Symptoms referable to systems or organs	20	11
780	Certain symptoms referable to nervous system and special senses	2	1
782	Symptoms referable to cardiovascular and lymphatic system	16	6
784	Symptoms referable to upper gastrointestinal tract	1	2
785	Symptoms referable to abdomen and lower gastrointestinal tract	1	2
790-796	Senility and Ill Defined Diseases	59	67
792	Uremia	1	-
794	Senility without mention of psychosis	11	15
795	Sudden death, cause unknown	17	18
796	Other ill defined and unknown causes of morbidity and mortality	30	34
E800-E999	ACCIDENTS, POISONINGS, AND VIOLENCE (EXTERNAL CAUSE)	472	456
E800-E807	Railway accidents	1	7
E800	Railway accident involving collision with rolling stock	-	1
E801	Railway accidents involving collision with other object		1
E804	Fall in, on, or from train	1	-
E805	Hit by rolling stock	-	4
E806	Other specified railway accident	-	1
E801-E819	Motor vehicle traffic accidents	188	190
E810	Motor vehicle traffic accident involving collision with train	13	10
E812	Motor vehicle traffic accident involving collision with motor vehicle	83	88
E813	Motor vehicle traffic accident involving collision with other vehicle	1	1
E814	Motor vehicle traffic accident involving collision with pedestrian	14	10
E815	Other motor vehicle traffic accident involving collision	21	34
E816	Noncollision motor vehicle traffic accident due to loss of control	50	42
E818	Other noncollision motor vehicle traffic accident	5	2
E819	Motor vehicle traffic accident of unspecified nature	1	3
E820-E823	Motor vehicle nontraffic accidents	11	6
E820	Motor vehicle nontraffic accident involving collision with movng object	6	5
E821	Motor vehicle nontraffic accident involving collision with stationary object	2	-
E822	Motor vehicle nontraffic accident while boarding or alighting	1	1
E823	Motor vehicle nontraffic accident of other unspecified nature	2	-
E825-E827	Other road vehicle accidents	-	1
E826	Pedal cycle accident	-	1
E830-E838	Water transport accidents	4	4
E830	Accident to watercraft causing submersion	4	-
E832	Other accidental submersion or drowning in water transport	-	4
E840-E845	Air and space transport accidents	2	13
E840	Accident to powered aircraft at take off or landing	1	2
E841	Accident to powered aircraft, other and unspecified	1	11
E850-E859	Accidental poisoning by drugs and medicaments	2	4
E853	Accidental poisoning by analgesics and antipyretics	2	1
E854	Accidental poisoning by other sedatives and hypnotics	-	1
E855	Accidental poisoning by autonomic nervous system and psychotherapeutic drugs	-	1
E859	Accidental poisoning by other and unspecified drugs and medicaments	-	1
E860-E869	Accidental poisoning by other solid and liquid substances	2	-
E860	Accidental poisoning by alcohol	2	-
E870-E877	Accidental poisoning by gases and vapors	10	9
E871	Accidental poisoning by liquified petroleum gas distributed in mobile containers	-	1
E873	Accidental poisoning by motor vehicle exhaust gas	4	5
E874	Accidental poisoning by carbon monoxide from incomplete combusion if domestic fuels	2	2
E875	Accidental poisoning by other carbon monoxide	2	-

Table 17 (cont.)
RESIDENT NORTH DAKOTA DEATHS BY CAUSE
1977-1978

ICDA LIST NO	CAUSE OF DEATH	1977	1978
E876	Accidental poisoning by other gases and vapors	1	1
E877	Accidental poisoning by unspecified gases and vapors	1	-
E880 E887	Accidental falls	55	41
E880	Fall on or from stairs or steps	11	4
E881	Fall on or from ladders or scaffolding	2	-
E882	Fall from or out of building or other structure	3	1
E883	Fall into hole or other opening in surface	1	-
E884	Other fall from one level to another	9	7
E885	Fall on same level from slipping, stumbling, or tripping	3	3
E887	Other and unspecified fall	26	26
E890 E899	ACCIDENTS CAUSED BY FIRES AND FLAMES	20	10
E890	Accident caused by conflagration in private dwelling	6	7
E891	Accident caused by conflagration in other building or structure	10	-
E892	Accident caused by conflagration not in building or structure	1	-
E893	Accident caused by ignition of clothing	2	-
E894	Accident caused by ignition of highly inflammable material	-	1
E895	Accident caused by controlled fire in private dwelling	1	-
E897	Accident caused by controlled fire not in building or structure	-	1
E898	Accident caused by other specified fires or flames	-	1
E900 E909	Accidents due to natural and environmental factors	9	13
E901	Excessive cold	8	6
E906	Other accidents caused by animals	1	-
E907	Lightning	-	1
E908	Cataclysm	-	6
E910 E929	Other accidents	73	67
E910	Accidental drowning and submersion	15	21
E911	Inhalation and ingestion of food causing obstruction or suffocation	13	7
E912	Inhalation and ingestion of other object causing obstruction	1	-
E913	Accidental mechanical suffocation	7	1
E916	Struck accidentally by falling object	6	8
E917	Striking against or struck accidentally by objects	3	2
E918	Caught accidentally in or between objects	3	3
E922	Accident caused by firearm missiles	9	12
E923	Accident caused by explosive material	2	1
E924	Accident caused by hot substance, corrosive liquid, and steam	2	-
E925	Accident caused by electric current	5	4
E927	Vehicle accidents not elsewhere classifiable	2	1
E928	Machinery accidents not elsewhere classifiable	3	3
E929	Other and unspecified accidents	2	4
E930 E939	Surgical and medical complications and misadventures	1	2
E930	Complications and misadventures in operative therapeutic proceures	1	-
E932	Complications and misadventures in diagnostic procedures	-	1
E936	Complications and misadventures in other non-therapeutic procedures	-	1
E940 E949	Late effects of accidental injury	3	5
E940	Late effect of motor vehicle accident	1	2
E943	Late effect of accidental fall	2	1
E946	Late effect of accidents	-	2
E950 E959	Suicide and self inflicted injury	71	67
E950	Suicide and self inflicted poisoning by solid or liquid substaces	5	5
E952	Suicide and self inflicted poisoning by other gases	5	9
E953	Suicide and self inflicted injury by hanging, strangulation, and suffocation	12	10
E954	Suicide and self inflicted injury by submersion (drowning)	-	1
E955	Suicide and self inflicted injury by firearms and explosives	46	39
E956	Suicide and self inflicted injury by cutting and piercing instruments	2	2
E957	Suicide and self inflicted injury by jumping from a high place	1	1
E960 E969	Homicide and injury purposely inflicted by other persons	5	12
E963	Assault by hanging and strangulation	3	-
E965	Assault by firearms and explosives	1	10
E966	Assault by cutting and piercing instruments	-	1
E9688	Assault by other unspecified means	1	1
E970 E978	Legal intervention	-	1
E970	Injury due to legal intervention by firearms	-	1

Table 17 (cont.)
RESIDENT NORTH DAKOTA DEATHS BY CAUSE
1977-1978

ICDA LIST NO.	CAUSE OF DEATH	1977	1978
E980-E989	Injury undetermined whether accidentally or purposely inflicted	15	4
E980	Poisoning by solid or liquid substances	6	1
E982	Poisoning by other gases	1	-
E985	Injury by firearms and explosives	4	3
E986	Injury by cutting and piercing instruments	1	-
E988	Injury by unspecified means	3	-

Table 18
NORTH DAKOTA: DEATHS FROM SELECTED CAUSES
BY COUNTY OF RESIDENCE, 1977-1978

COUNTY OF RESIDENCE	Tuberculosis (010-019)		Malignant Neoplasms (140-209)	
	1977	1978	1977	1978
TOTAL	3	0	987	1,079
Adams	-	-	8	4
Barnes	-	-	25	33
Benson	-	-	12	16
Billings	-	-	2	3
Bottineau	-	-	25	15
Bowman	-	-	3	5
Burke	-	-	9	12
Burleigh	-	-	64	59
Cass	-	-	115	130
Cavalier	-	-	13	17
Dickey	-	-	18	17
Divide	-	-	7	9
Dunn	-	-	6	4
Eddy	-	-	10	5
Emmons	-	-	12	14
Foster	-	-	10	8
Golden Valley	-	-	3	4
Grand Forks	1	-	72	77
Grant	-	-	4	9
Griggs	-	-	10	3
Hettinger	-	-	10	6
Kidder	-	-	5	7
LaMoure	1	-	11	12
Logan	-	-	6	8
McHenry	-	-	26	20
McIntosh	-	-	8	6
McKenzie	-	-	13	12
McLean	-	-	17	23
Mercer	-	-	17	17
Morton	-	-	32	46
Mountrail	1	-	13	14
Nelson	-	-	16	14
Oliver	-	-	2	2
Pembina	-	-	13	27
Pierce	-	-	15	12
Ramsey	-	-	29	23
Ransom	-	-	16	14
Renville	-	-	9	9
Richland	-	-	29	39
Rolette	-	-	14	23
Sargent	-	-	13	12
Sheridan	-	-	6	5
Sioux	-	-	5	3
Slope	-	-	2	2
Stark	-	-	30	37
Steele	-	-	6	10
Stutsman	-	-	42	37
Towner	-	-	7	8
Traill	-	-	12	27
Walsh	-	-	24	44
Ward	-	-	64	79
Wells	-	-	19	14
Williams	-	-	28	23

Table 18 (continued)
NORTH DAKOTA: DEATHS FROM SELECTED CAUSES
BY COUNTY OF RESIDENCE, 1977-1978

COUNTY OF RESIDENCE	Diabetes (250)		Diseases of Heart*	
	1977	1978	1977	1978
TOTAL	98	103	1,963	2,066
Adams	-	1	20	21
Barnes	-	5	60	56
Benson	-	-	25	28
Billings	-	-	4	1
Bottineau	2	2	45	44
Bowman	2	1	11	14
Burke	1	2	10	16
Burleigh	8	5	95	101
Cass	3	10	200	190
Cavalier	1	1	24	34
Dickey	1	2	43	54
Divide	-	1	12	12
Dunn	-	-	14	18
Eddy	1	1	19	19
Emmons	3	2	22	17
Foster	-	2	17	24
Golden Valley	1	1	11	5
Grand Forks	11	3	138	143
Grant	-	3	20	24
Griggs	-	2	19	18
Hettinger	-	7	15	17
Kidder	1	-	16	19
LaMoure	-	2	38	40
Logan	-	1	17	16
McHenry	1	1	32	36
McIntosh	-	1	29	16
McKenzie	-	-	19	20
McLean	2	2	52	41
Mercer	-	1	25	25
Morton	3	2	52	68
Mountrail	4	2	21	26
Nelson	1	1	29	44
Oliver	-	-	6	9
Pembina	2	3	47	47
Pierce	1	2	18	19
Ramsey	-	1	42	52
Ransom	2	2	31	38
Renville	-	-	15	10
Richland	5	1	68	52
Rolette	5	2	37	43
Sargent	1	1	30	31
Sheridan	-	1	12	9
Sioux	6	-	5	7
Slope	-	-	3	1
Stark	3	4	60	65
Steele	-	-	10	15
Stutsman	8	6	75	83
Towner	1	1	15	18
Traill	3	2	53	48
Walsh	4	2	69	84
Ward	7	7	111	135
Wells	1	3	35	29
Williams	3	1	67	64

*309 398, 402, 404, 410-429

Table 18 (continued)
NORTH DAKOTA: DEATHS FROM SELECTED CAUSES
BY COUNTY OF RESIDENCE, 1977-1978

COUNTY OF RESIDENCE	Cerebrovascular Diseases*		Arteriosclerosis (440)	
	1977	1978	1977	1978
TOTAL	495	545	117	95
Adams	3	6	-	3
Barnes	14	20	4	5
Benson	3	8	1	-
Billings	-	-	-	-
Bottineau	11	16	-	-
Bowman	2	5	2	2
Burke	3	3	-	1
Burleigh	25	24	9	4
Cass	64	60	10	13
Cavalier	10	10	4	5
Dickey	10	3	4	2
Divide	3	2	1	-
Dunn	1	-	1	1
Eddy	3	6	1	-
Emmons	3	5	-	-
Foster	10	16	-	1
Golden Valley	-	2	1	1
Grand Forks	26	39	4	2
Grant	6	3	-	1
Griggs	2	4	-	1
Hettinger	3	3	-	1
Kidder	2	5	-	-
LaMoure	12	5	1	4
Logan	2	4	1	-
McHenry	4	6	2	-
McIntosh	5	8	-	-
McKenzie	6	3	-	1
McLean	18	11	-	1
Mercer	4	5	-	-
Morton	14	18	2	2
Mountrail	9	4	1	2
Nelson	8	10	2	-
Oliver	2	2	-	-
Pembina	17	15	7	4
Pierce	2	3	-	3
Ramsey	12	21	3	5
Ransom	8	15	3	2
Renville	4	1	1	-
Richland	17	12	12	3
Rolette	5	9	1	-
Sargent	4	4	3	2
Sheridan	5	2	2	1
Sioux	1	-	-	-
Slope	-	2	-	-
Stark	17	19	3	4
Steele	4	3	-	1
Stutsman	23	23	8	5
Towner	1	5	3	-
Traill	13	16	2	1
Walsh	24	18	5	2
Ward	26	33	10	5
Wells	12	9	1	1
Williams	12	19	2	4

*430-438

Table 18 (continued)
NORTH DAKOTA: DEATHS FROM SELECTED CAUSES
BY COUNTY OF RESIDENCE, 1977-1978

COUNTY OF RESIDENCE	Other Diseases of Arteries*		Influenza (470-474)	
	1977	1978	1977	1978
TOTAL	73	96	5	20
Adams	-	1	-	-
Barnes	4	4	-	1
Benson	-	1	-	1
Billings	-	-	-	-
Bottineau	1	1	-	1
Bowman	-	2	-	-
Burke	-	-	-	-
Burleigh	7	6	-	2
Cass	7	7	-	-
Cavalier	1	1	-	-
Dickey	-	-	-	-
Divide	2	-	-	-
Dunn	-	-	-	-
Eddy	1	4	1	-
Emmons	-	-	-	-
Foster	1	3	-	-
Golden Valley	1	1	-	-
Grand Forks	9	7	-	-
Grant	-	1	-	-
Griggs	-	-	-	-
Hettinger	-	3	-	-
Kidder	-	-	-	-
LaMoure	-	-	-	1
Logan	-	1	-	-
McHenry	1	1	-	-
McIntosh	1	-	-	-
McKenzie	-	2	-	-
McLean	2	2	-	-
Mercer	-	2	-	-
Morton	1	3	-	1
Mountrail	1	3	-	-
Nelson	-	-	-	-
Oliver	-	1	-	-
Pembina	-	2	1	-
Pierce	1	1	-	-
Ramsey	2	2	-	-
Ransom	-	1	-	-
Renville	-	-	-	-
Richland	6	-	1	3
Rolette	1	-	-	-
Sargent	1	-	-	-
Sheridan	1	1	1	-
Sioux	1	1	-	-
Slope	-	1	-	-
Stark	2	2	-	-
Steele	1	-	-	-
Stutsman	4	5	1	2
Towner	1	2	-	-
Traill	3	2	-	-
Walsh	2	4	-	-
Ward	5	11	-	2
Wells	1	2	-	-
Williams	1	2	-	-

*441-448

Table 18 (continued)
NORTH DAKOTA: DEATHS FROM SELECTED CAUSES
BY COUNTY OF RESIDENCE, 1977-1978

COUNTY OF RESIDENCE	Pneumonia (480-486)		Bronchitis, Asthma, and Emphysema*	
	1977	1978	1977	1978
TOTAL	154	199	64	42
Adams	5	-	1	2
Barnes	7	7	-	2
Benson	3	5	-	-
Billings	-	-	-	-
Bottineau	3	5	2	1
Bowman	1	2	1	-
Burke	3	1	2	-
Burleigh	8	5	2	1
Cass	7	15	5	7
Cavalier	-	1	-	1
Dickey	1	3	-	1
Divide	1	2	1	-
Dunn	-	-	1	-
Eddy	1	7	1	-
Emmons	-	2	-	-
Foster	4	1	1	-
Golden Valley	-	-	1	-
Grand Forks	14	13	7	3
Grant	1	2	-	-
Griggs	2	3	1	-
Hettinger	5	3	1	-
Kidder	2	2	2	-
LaMoure	3	1	1	-
Logan	-	-	-	-
McHenry	-	2	2	-
McIntosh	1	2	-	-
McKenzie	3	2	2	-
McLean	5	5	3	-
Mercer	-	-	-	-
Morton	4	8	2	-
Mountrail	5	6	4	1
Nelson	2	-	-	-
Oliver	1	-	-	-
Pembina	1	2	-	3
Pierce	2	3	-	1
Ramsey	2	8	1	1
Ransom	-	4	1	1
Renville	1	-	-	1
Richland	7	8	1	1
Rolette	1	4	1	-
Sargent	-	3	3	3
Sheridan	1	-	1	-
Sioux	1	5	-	-
Slope	-	-	-	-
Stark	1	4	3	1
Steele	2	1	-	-
Stutsman	8	5	-	2
Towner	3	4	-	1
Traill	5	9	2	3
Walsh	6	8	2	3
Ward	11	12	5	-
Wells	2	3	-	1
Williams	8	11	1	1

*490-493

Table 18 (continued)
NORTH DAKOTA: DEATHS FROM SELECTED CAUSES
BY COUNTY OF RESIDENCE, 1977 1978

COUNTY OF RESIDENCE	Cirrhosis of Liver (571)		Nephritis and Nephrosis*	
	1977	1978	1977	1978
TOTAL	64	72	20	23
Adams	1	1	-	-
Barnes	2	5	-	1
Benson	2	7	-	-
Billings	-	-	-	-
Bottineau	-	2	2	1
Bowman	-	1	-	-
Burke	-	-	-	-
Burleigh	4	6	-	1
Cass	4	3	4	3
Cavalier	-	-	1	-
Dickey	1	-	-	-
Divide	1	-	1	-
Dunn	-	-	-	-
Eddy	1	-	-	-
Emmons	1	-	-	-
Foster	-	-	-	-
Golden Valley	-	-	-	-
Grand Forks	5	3	1	-
Grant	-	-	-	-
Griggs	-	-	-	1
Hettinger	2	1	-	-
Kidder	1	3	-	1
LaMoure	-	-	-	-
Logan	-	-	-	-
McHenry	-	3	-	-
McIntosh	1	1	2	-
McKenzie	-	1	-	-
McLean	2	1	-	-
Mercer	2	-	-	1
Morton	3	1	1	1
Mountrail	1	3	1	-
Nelson	1	1	-	1
Oliver	-	-	-	-
Pembina	2	-	1	1
Pierce	1	-	-	1
Ramsey	3	-	-	-
Ransom	-	1	-	-
Renville	-	-	1	-
Richland	2	1	2	1
Rolette	1	-	-	-
Sargent	1	2	-	-
Sheridan	-	-	-	-
Sioux	1	7	-	-
Slope	-	-	-	-
Stark	3	3	-	-
Steele	-	-	-	-
Stutsman	-	2	2	1
Towner	1	-	-	-
Traill	-	1	-	1
Walsh	1	2	-	2
Ward	9	8	1	4
Wells	1	1	-	-
Williams	3	1	-	1

*580-584

Table 18 (continued)
NORTH DAKOTA: DEATHS FROM SELECTED CAUSES
BY COUNTY OF RESIDENCE, 1977-1978

COUNTY OF RESIDENCE	Congenital Anomalies*		Diseases of Early Infancy**	
	1977	1978	1977	1978
TOTAL	39	51	90	69
Adams	-	-	1	-
Barnes	2	-	1	-
Benson	1	3	1	1
Billings	-	1	-	-
Bottineau	-	1	1	1
Bowman	-	-	-	-
Burke	-	-	-	1
Burleigh	1	5	9	5
Cass	5	9	6	7
Cavalier	-	-	-	-
Dickey	-	-	-	-
Divide	-	-	-	-
Dunn	1	1	1	-
Eddy	-	-	1	-
Emmons	1	-	1	-
Foster	-	-	-	-
Golden Valley	-	-	-	-
Grand Forks	5	5	13	12
Grant	-	-	-	-
Griggs	-	-	-	1
Hettinger	-	-	2	-
Kidder	-	-	-	-
LaMoure	-	1	1	-
Logan	-	1	1	-
McHenry	-	-	-	-
McIntosh	-	1	1	-
McKenzie	-	-	-	2
McLean	-	-	2	1
Mercer	1	-	1	1
Morton	1	4	7	2
Mountrail	1	1	-	2
Nelson	-	-	2	-
Oliver	1	-	-	-
Pembina	2	1	1	-
Pierce	-	-	2	1
Ramsey	-	2	4	-
Ransom	1	-	-	-
Renville	-	-	-	1
Richland	2	2	-	9
Rolette	2	1	8	1
Sargent	-	-	-	-
Sheridan	1	1	1	-
Sioux	2	-	2	2
Slope	-	-	-	-
Stark	-	1	1	2
Steele	-	-	-	-
Stutsman	-	3	1	1
Towner	-	1	-	1
Traill	-	-	2	-
Walsh	1	3	5	1
Ward	6	1	5	14
Wells	-	1	3	-
Williams	2	1	3	-

*740-759
**760-778)

Table 18
NORTH DAKOTA: DEATHS FROM SELECTED CAUSES
BY COUNTY OF RESIDENCE, 1977-1978

COUNTY OF RESIDENCE	ACCIDENTS*		SUICIDE (950-959)	
	1977	1978	1977	1978
TOTAL	182	176	71	67
Adams	2	1	-	-
Barnes	3	4	-	-
Benson	3	1	5	2
Billings	-	-	-	-
Bottineau	1	4	-	-
Bowman	4	3	-	1
Burke	2	3	-	-
Burleigh	11	3	5	2
Cass	19	16	11	10
Cavalier	4	2	1	-
Dickey	3	-	1	-
Divide	2	5	-	1
Dunn	2	1	2	1
Eddy	1	2	-	-
Emmons	-	3	1	-
Foster	2	-	1	-
Golden Valley	2	-	1	-
Grand Forks	16	12	9	5
Grant	2	5	1	-
Griggs	1	1	-	-
Hettinger	-	1	-	1
Kidder	2	1	-	1
LaMoure	-	2	-	-
Logan	-	-	-	-
McHenry	1	3	-	-
McIntosh	2	3	-	-
McKenzie	2	2	1	3
McLean	1	7	2	1
Mercer	2	1	-	1
Morton	7	5	6	2
Mountrail	2	1	1	3
Nelson	-	2	-	-
Oliver	-	1	-	1
Pembina	7	5	1	1
Pierce	-	1	-	1
Ramsey	6	8	-	1
Ransom	3	3	-	1
Renville	2	-	1	-
Richland	8	5	1	1
Rolette	7	8	2	-
Sargent	3	1	-	1
Sheridan	1	-	-	-
Sioux	5	2	-	2
Slope	-	-	-	-
Stark	6	6	1	3
Steele	-	1	1	-
Stutsman	9	7	3	4
Towner	-	2	-	-
Traill	-	1	3	2
Walsh	6	9	4	2
Ward	11	14	4	9
Wells	5	1	-	3
Williams	4	7	2	1

*800-807, 825-949

Table 18
NORTH DAKOTA: DEATHS FROM SELECTED CAUSES
BY COUNTY OF RESIDENCE, 1977-1978

COUNTY OF RESIDENCE	HOMICIDE (960-978)		RESIDUAL	
	1977	1978	1977	1978
TOTAL	5	13	534	538
Adams	-	-	4	6
Barnes	-	-	11	5
Benson	-	-	12	15
Billings	-	-	-	-
Bottineau	-	-	5	7
Bowman	-	-	5	4
Burke	-	-	6	4
Burleigh	1	1	29	24
Cass	2	2	53	60
Cavalier	-	-	7	6
Dickey	-	-	6	9
Divide	-	-	2	11
Dunn	-	-	5	4
Eddy	-	-	11	6
Emmons	-	-	3	7
Foster	-	-	3	3
Golden Valley	-	-	1	3
Grand Forks	-	3	33	38
Grant	-	-	2	3
Griggs	-	-	3	4
Hettinger	-	-	8	5
Kidder	1	-	4	-
LaMoure	-	-	8	8
Logan	-	-	2	2
McHenry	-	-	7	8
McIntosh	-	-	5	4
McKenzie	-	-	9	8
McLean	-	-	7	13
Mercer	-	2	13	12
Morton	-	1	17	15
Mountrail	-	-	5	5
Nelson	-	-	5	10
Oliver	-	-	2	1
Pembina	-	-	12	6
Pierce	-	-	5	4
Ramsey	-	-	9	12
Ransom	-	-	4	4
Renville	-	-	4	4
Richland	-	-	16	13
Rolette	-	-	11	14
Sargent	-	-	8	9
Sheridan	-	-	2	1
Sioux	-	2	14	8
Slope	-	-	1	1
Stark	-	-	18	20
Steele	-	-	1	6
Stutsman	1	1	31	24
Towner	-	-	4	8
Traill	-	-	7	5
Walsh	-	1	14	14
Ward	-	-	58	53
Wells	-	-	4	5
Williams	-	-	18	17

Table 19a
ACCIDENTAL DEATHS OCCURRING IN NORTH DAKOTA BY TYPE OF ACCIDENT
1977

TYPE OF ACCIDENT	ALL AGES	0-4	5-14	15-24	25-44	45-64	65-74	75 AND OVER	AGE UNKNOWN
GRAND TOTAL	387	15	26	112	67	70	34	63	-
WORK TOTAL	25	-	-	6	8	8	2	1	-
Agriculture	9	-	-	3	1	2	2	1	-
Mining, Quarrying, Oil and Gas Wells	4	-	-	-	2	2	-	-	-
Construction	3	-	-	2	1	-	-	-	-
Manufacturing	2	-	-	-	2	-	-	-	-
Transportation and Public Utilities	3	-	-	1	2	-	-	-	-
Trade	-	-	-	-	-	-	-	-	-
Service	1	-	-	-	-	1	-	-	-
Government	1	-	-	-	-	1	-	-	-
Other and Unspecified Industry	2	-	-	-	-	2	-	-	-
HOME TOTAL	83	7	8	9	3	19	13	24	-
Poisonings (gas excepted)	5	-	-	1	-	3	1	-	-
Poisonings by Gases and Vapors	4	-	-	-	-	2	-	2	-
Falls	33	-	-	-	-	7	10	16	-
Fires	9	-	-	3	-	2	1	3	-
Drowning	4	2	2	-	-	-	-	-	-
Suffocation, Ingested Food or Object	8	3	-	2	-	2	1	-	-
Suffocation, Mechanical	6	2	3	1	-	-	-	-	-
Firearms	4	-	2	-	1	1	-	-	-
Other and Unspecified Home Accidents	10	-	1	2	2	2	-	3	-
MOTOR VEHICLE TOTAL	205	7	15	82	43	34	10	14	-
Injury to Pedestrian	17	2	1	6	4	4	-	-	-
Injury to Pedal Cyclist	1	-	1	-	-	-	-	-	-
Injury to Rider of Animal or Occupant of Animal Drawn Vehicle	-	-	-	-	-	-	-	-	-
Collision with Railroad Train	12	-	-	5	3	2	2	-	-
Collision with Other Motor Vehicle	83	3	7	38	8	12	5	10	-
Collision with Fixed Object	26	-	1	9	9	4	2	1	-
Noncollision	61	2	5	23	17	11	-	3	-
Other and Unspecified Accidents	5	-	-	1	2	1	1	-	-
PUBLIC NON-MOTOR VEHICLE TOTAL	69	1	3	14	11	8	8	24	-
Railroad -- Not with Motor Vehicle	1	-	-	-	-	1	-	-	-
Other Vehicle -- Not with Motor Vehicle	-	-	-	-	-	-	-	-	-
Water Transport	4	-	-	2	-	1	-	1	-
Air Transport	1	-	-	-	1	-	-	-	-
Falls	19	-	-	1	-	-	2	16	-
Fires	7	-	-	1	-	3	2	1	-
Drowning	10	1	2	3	2	1	1	-	-
Firearms	5	-	1	3	1	-	-	-	-
Other and Unspecified Public Accidents	22	-	-	4	7	2	3	6	-
ACCIDENT TYPE UNKNOWN AND LATE EFFECTS	5	-	-	1	2	1	1	-	-

Table 19b
ACCIDENTAL DEATHS OCCURRING IN NORTH DAKOTA BY TYPE OF ACCIDENT
1978

TYPE OF ACCIDENT	ALL AGES	0-4	5-14	15-24	25-44	45-64	65-74	75 AND OVER	AGE UNKNOWN
GRAND TOTAL	393	19	29	109	92	70	28	45	1
WORK TOTAL	28	-	1	7	9	11	-	-	-
Agriculture	13	-	1	-	2	10	-	-	-
Mining, Quarrying, Oil and Gas Wells	2	-	-	1	1	-	-	-	-
Construction	6	-	-	2	3	1	-	-	-
Manufacturing	3	-	-	3	-	-	-	-	-
Transportation and Public Utilities	3	-	-	1	2	-	-	-	-
Trade	-	-	-	-	-	-	-	-	-
Service	-	-	-	-	-	-	-	-	-
Government	-	-	-	-	-	-	-	-	-
Other Unspecified Industry	1	-	-	-	1	-	-	-	-
HOME TOTAL	71	11	2	13	12	10	9	14	-
Poisonings (gas excepted)	2	-	-	1	1	-	-	-	-
Poisonings by Gases and Vapors	8	-	-	4	3	1	-	-	-
Falls	25	-	-	-	2	4	7	12	-
Fires	10	3	1	2	1	2	-	1	-
Drowning	4	4	-	-	-	-	-	-	-
Suffocation, Injested Food Object	5	2	-	2	1	-	-	-	-
Suffocation, Mechanical	1	-	-	1	-	-	-	-	-
Firearms	7	1	1	1	3	-	1	-	-
Other Unspecified Home Accidents	9	1	-	2	1	3	1	1	-
MOTOR VEHICLE TOTAL	211	8	19	79	52	34	7	12	-
Injury to Pedestrian	17	5	3	1	1	2	2	3	-
Injury to Pedal Cyclist	4	-	3	-	-	-	-	1	-
Injury to Rider of Animal or Occupant of Animal Drawn Vehicle	-	-	-	-	-	-	-	-	-
Collision With Railroad Train	12	2	-	5	1	2	-	2	-
Collision with Other Motor Vehicle	93	-	8	31	26	18	4	6	-
Collision with Fixed Object	39	-	1	22	12	4	-	-	-
Noncollision	45	1	4	20	11	8	1	-	-
Other and Unspecified Accidents	1	-	-	-	1	-	-	-	-
PUBLIC NON-MOTOR VEHICLE TOTAL	76	-	7	11	17	13	10	17	1
Railroad -- Not with Motor Vehicle	8	-	1	-	2	2	-	2	1
Other Vehicle -- Not with Motor Vehicle	1	-	-	-	1	-	-	-	-
Water Transport	1	-	-	-	1	-	-	-	-
Air Transport	12	-	-	2	7	3	-	-	-
Falls	18	-	-	-	1	2	2	13	-
Fires	-	-	-	-	-	-	-	-	-
Drowning	13	-	6	6	-	-	1	-	-
Firearms	6	-	-	2	2	-	2	-	-
Other and Unspecified Public Accidents	17	-	-	1	3	6	5	2	-
ACCIDENT TYPE UNKNOWN AND LATE EFFECTS	7	-	-	-	2	3	1	1	-

Table 20
NORTH DAKOTA: RESIDENT LIVE BIRTHS, INFANT DEATHS, AND INFANT DEATH RATES* BY RACE
1950, 1960, 1970-1978

YEAR	TOTAL	RACE		
		WHITE	INDIAN	ALL OTHER
1950				
Live Births	17,076	16,620	448	8
Infant Deaths	461	427	34	-
Rate	27.0	25.7	75.9	-
1960				
Live Births	16,690	16,045	582	63
Infant Deaths	414	387	25	2
Rate	24.8	24.1	43.0	31.7
1970				
Live Births	11,004	10,329	556	119
Infant Deaths	157	147	10	-
Rate	14.3	14.2	18.0	-
1971				
Live Births	10,361	9,681	541	139
Infant Deaths	158	141	14	3
Rate	15.2	14.6	25.9	21.6
1972				
Live Births	10,115	9,362	620	133
Infant Deaths	164	149	13	2
Rate	16.2	15.9	21.0	15.0
1973				
Live Births	9,738	8,985	557	196
Infant Deaths	160	138	16	6
Rate	16.4	15.4	28.7	30.6
1974				
Live Births	10,010	9,236	519	183
Infant Deaths	169	151	13	5
Rate	16.9	16.3	25.0	27.3
1975				
Live Births	10,624	9,810	621	193 **
Infant Deaths	156	140	16	-
Rate	14.7	14.3	25.8	-
1976				
Live Births	10,724	9,827	653	244 **
Infant Deaths	149	129	14	6
Rate	13.9	13.1	21.4	24.6
1977				
Live Births	11,450	10,519	646	285
Infant Deaths	159	132	20	7
Rate	13.9	12.6	31.0	24.6
1978				
Live Births	11,347	10,435	745	167
Infant Deaths	150	138	11	1
Rate	13.2	13.2	14.8	6.0

*Rate computed per 1,000 live births
**1975 "other" includes 4 race unknown
**1976 "other" includes 19 race unknown

Table 21a
NORTH DAKOTA: RESIDENT INFANT DEATHS BY CAUSE, AGE AT DEATH, AND AUTOPSY STATUS, 1977

CAUSE OF DEATH	ICDA LIST NO.	TOTAL	AGE AT DEATH				AUTOPSY STATUS		
			UNDER 1 DAY	1-6 DAYS	7-27 DAYS	1-11 MONTHS	YES	NO	NOT STATED
TOTAL, ALL CAUSES		159	76	32	15	36	77	70	12
Certain Gastrointestinal Diseases	004,006-009, 535,561,563	4	-	-	3	1	3	1	-
Influenza and Pneumonia	470-474,480-486	2	-	-	-	2	2	-	-
Congenital Anomalies	740-759	32	15	8	4	5	26	6	-
Birth Injuries	764-768 (.0-.3), 772	6	3	1	2	-	3	3	-
Hyaline Membrane Disease	776.1	13	4	9	-	-	3	8	2
Asphyxia of Newborn, Unspecified	776.9	12	10	-	1	1	6	5	1
Immaturity, Unqualified	777	17	15	2	-	-	3	12	2
Other Diseases of Early Infancy	Rem. 760-778	42	27	11	3	1	11	25	6
Symptoms and Ill-Defined Conditions, Including Crib Deaths	780-796	17	1	-	-	16	14	3	-
Accidents	E800-E949	6	-	-	1	5	2	3	1
All Other Causes	Residual	8	1	1	1	5	4	4	-

Table 21b
NORTH DAKOTA: RESIDENT INFANT DEATHS BY CAUSE, AGE AT DEATH, AND AUTOPSY STATUS, 1978

CAUSE OF DEATH	ICDA LIST NO.	TOTAL	AGE AT DEATH				AUTOPSY STATUS		
			UNDER 1 DAY	1-6 DAYS	7-27 DAYS	1-11 MONTHS	YES	NO	NOT STATED
Total, All Causes		150	46	38	23	43	94	56	-
Certain Gastrointestinal Diseases	004,006-009, 535,561,563	3	-	-	2	1	2	1	-
Influenza and Pneumonia	470-474, 480-486	8	-	1	1	6	5	3	-
Congenital Anomalies	740-759	33	6	11	6	10	24	9	-
Birth Injuries	764,768 (.0-.3), 772	2	2	-	-	-	1	1	-
Hyaline Membrane Disease	776.1	7	2	4	1	-	4	3	-
Asphyxia of Newborn, Unspecified	776.9	7	4	3	-	-	3	4	-
Immaturity, Unqualified	777	9	6	3	-	-	3	6	-
Other Diseases of Early Infancy	Rem. of 760-778	43	25	12	5	1	20	23	-
Symptoms and Ill-Defined Conditions, Including Crib Deaths	780-796	18	-	-	3	15	16	2	-
Accidents	E800-E949	5	-	1	-	4	3	2	-
All Other Causes	Residual	15	1	3	5	6	13	2	-

Table 22a
NORTH DAKOTA: RESIDENT INFANT DEATHS
BY COUNTY OF RESIDENCE AND AGE, 1977

COUNTY	TOTAL	UNDER 1 DAY	1 6 DAYS	7 27 DAYS	1 11 MONTHS
TOTAL	159	76	32	15	36
Adams	1	1	-	-	-
Barnes	2	1	1	-	-
Benson	3	-	2	-	1
Billings	1	-	1	-	-
Bottineau	-	-	-	-	-
Bowman	-	-	-	-	-
Burke	1	-	-	-	1
Burleigh	11	7	3	-	1
Cass	16	5	3	4	4
Cavalier	2	-	-	-	2
Dickey	1	-	-	1	-
Divide	-	-	-	-	-
Dunn	2	1	1	-	-
Eddy	1	1	-	-	-
Emmons	2	2	-	-	-
Foster	-	-	-	-	-
Golden Valley	-	-	-	-	-
Grand Forks	20	9	5	1	5
Grant	-	-	-	-	-
Griggs	-	-	-	-	-
Hettinger	2	2	-	-	-
Kidder	-	-	-	-	-
LaMoure	1	1	-	-	-
Logan	1	1	-	-	-
McHenry	-	-	-	-	-
McIntosh	2	1	-	-	1
McKenzie	-	-	-	-	-
McLean	2	2	-	-	-
Mercer	2	1	1	-	-
Morton	9	4	3	1	1
Mountrail	-	-	-	-	-
Nelson	2	1	1	-	-
Oliver	1	1	-	-	-
Pembina	4	1	-	1	2
Pierce	2	1	1	-	-
Ramsey	4	3	-	1	-
Ransom	-	-	-	-	-
Renville	-	-	-	-	-
Richland	2	-	1	1	-
Rolette	15	7	2	-	6
Sargent	-	-	-	-	-
Sheridan	2	1	-	1	-
Sioux	4	2	1	1	-
Slope	-	-	-	-	-
Stark	1	-	-	-	1
Steele	-	-	-	-	-
Stutsman	4	1	-	-	3
Towner	1	1	-	-	-
Traill	2	2	-	-	-
Walsh	7	4	2	1	-
Ward	16	6	2	2	6
Wells	3	3	-	-	-
Williams	7	3	2	-	2

Table 22b
NORTH DAKOTA: RESIDENT INFANT DEATHS
BY COUNTY OF RESIDENCE AND AGE, 1978

COUNTY	TOTAL	UNDER 1 DAY	1-6 DAYS	7-27 DAYS	1-11 MONTHS
TOTAL	150	47	39	23	42
Adams	-	-	-	-	-
Barnes	-	-	-	-	-
Benson	5	-	1	2	2
Billings	-	-	-	-	-
Bottineau	1	1	-	-	-
Bowman	2	-	-	-	2
Burke	1	1	-	-	-
Burleigh	15	3	5	4	3
Cass	19	4	7	3	5
Cavalier	2	-	-	2	-
Dickey	1	-	-	-	1
Divide	1	-	-	-	1
Dunn	1	-	1	-	-
Eddy	-	-	-	-	-
Emmons	-	-	-	-	-
Foster	1	-	-	-	1
Golden Valley	-	-	-	-	-
Grand Forks	21	6	7	2	6
Grant	-	-	-	-	-
Griggs	2	1	-	1	-
Hettinger	-	-	-	-	-
Kidder	-	-	-	-	-
LaMoure	-	-	-	-	-
Logan	1	-	-	1	-
McHenry	-	-	-	-	-
McIntosh	-	-	-	-	-
McKenzie	2	1	1	-	-
McLean	2	1	-	-	1
Mercer	1	1	-	-	-
Morton	6	3	1	-	2
Mountrail	3	1	1	-	1
Nelson	-	-	-	-	-
Oliver	-	-	-	-	-
Pembina	1	1	-	-	-
Pierce	1	1	-	-	-
Ramsey	1	1	-	-	-
Ransom	-	-	-	-	-
Renville	1	-	-	1	-
Richland	11	6	3	1	1
Rolette	4	1	-	1	2
Sargent	-	-	-	-	-
Sheridan	1	1	-	-	-
Sioux	6	2	-	-	4
Slope	-	-	-	-	-
Stark	3	1	1	-	1
Steele	-	-	-	-	-
Stutsman	4	-	2	-	2
Towner	1	-	-	-	1
Traill	-	-	-	-	-
Walsh	5	-	1	2	2
Ward	19	10	5	1	3
Wells	3	-	1	1	1
Williams	2	-	1	1	-

Table 23
NORTH DAKOTA: TOTAL NUMBER OF DIVORCES AND CHILDREN AFFECTED
1950-1978

YEAR	TOTAL DIVORCES	CHILDREN AFFECTED							TOTAL CHILDREN AFFECTED	RATIO
		ZERO	1	2	3	4	5 OR MORE	NOT STATED		
1950	580	244	155	97	36	24	22	2	679	1.17
1951	598	260	143	108	33	29	22	3	700	1.17
1952	570	228	160	106	41	16	19	-	667	1.17
1953	561	252	125	106	35	23	19	1	641	1.14
1954	543	209	119	101	66	25	23	-	749	1.38
1955	530	205	117	96	59	33	20	-	736	1.39
1956	478	197	116	92	39	21	13	-	575	1.20
1957	532	183	139	111	55	25	19	-	739	1.39
1958	501	159	136	97	52	32	25	-	747	1.49
1959	582	191	131	116	69	42	33	-	929	1.60
1960	583	198	155	96	67	40	27	-	866	1.49
1961	621	211	147	129	74	33	27	-	919	1.48
1962	623	183	155	124	79	38	44	-	1,049	1.68
1963	672	216	162	116	79	58	41	-	1,110	1.65
1964	744	229	154	144	106	68	43	-	1,288	1.73
1965	711	218	154	129	100	59	51	-	1,239	1.74
1966	735	209	162	152	98	63	51	-	1,307	1.78
1967	898	253	205	173	113	73	81	-	1,636	1.82
1968	855	265	196	149	109	70	66	-	1,484	1.74
1969	893	306	202	154	98	61	72	-	1,468	1.64
1970	971	285	226	211	117	66	65	1	1,636	1.69
1971	1,172	377	303	266	125	70	72	1	1,821	1.55
1972	1,289	432	336	245	133	83	60	-	1,961	1.52
1973	1,409	452	367	288	159	72	70	-	2,134	1.51
1974	1,578	560	410	312	164	87	44	-	2,139	1.35
1975	1,706	645	427	346	186	66	36	-	2,150	1.23
1976	1,852	707	490	375	181	63	36	-	2,251	1.21
1977	1,944	768	521	417	152	61	25	-	2,196	1.13
1978	2,065	780	575	458	171	53	26	2	2,369	1.15

DIVISION OF LABORATORIES

The purpose of the Division of Laboratories is to provide programs of the Department of Health, ultimately striving toward improving the health of the people of North Dakota. Toward this goal we have continued to upgrade the quality of the services provided by this Division.

LEGIONNAIRES' DISEASE

Legionnaires' Disease was first recognized as a unique entity in 1976. Retrospective studies of samples stored from undiagnosed outbreaks indicate that the disease and its causative agent have been present for many years. Studies have shown there was an outbreak in Washington, D.C. in 1965 and one in Michigan in 1968.

In June 1978, the Division of Laboratories announced a program to provide laboratory diagnostic services for Legionnaires' Disease. The first laboratory confirmed case in North Dakota was reported June 12, 1978 by the Public Health Laboratory. Since the announcement was made the Public Health Laboratories have received 295 paired (acute and convalescent) specimens. A total of 12 of these paired sera showed a significant increase in titer and were considered positive for Legionnaires' Disease.

One staff member obtained specialized training in the methods used for the laboratory detection of Legionnaires' Disease at the Center for Disease Control. Another staff member attended an international symposium on this disease held in Atlanta. Public Health Laboratory personnel conducted a workshop on the Laboratory methods for Detection of Legionnaires' Disease.

ENTERIC DISEASE

The laboratories cultured 4565 stool specimens during this biennium. One hundred ninety five (195) enteric pathogens (Salmonella and Shigella) were isolated. This represents an increase of 44 over the previous biennium. This increase was caused by a **Shigella sonnei** outbreak in September 1978. The outbreak is believed to have originated from food served at a carnival food stand.

CLINICAL MICROBIOLOGY

Cultures performed on various types of clinical material accounted for 70,000 specimens submitted by physicians, hospitals and public health clinics. Approximately 250,000 tests were performed on this group of specimens.

MYCOBACTERIOLOGY LABORATORY

With the exception of two hospital laboratories, the Public Health Laboratory is the only laboratory performing mycobacteriology culture work in North Dakota. This service is more expensive to perform because of the care that must be taken to prevent laboratory infections. Pulmonary diseases such as tuberculosis are known to be spread by airborne transmission. Since many manipulations in the lab cause aerosols it is essential that these aerosols be reduced to a minimum. The Bismarck Laboratory has a specially designed room housing all equipment needed for processing tuberculosis specimens. In addition there is a ventilation system engineered to maintain airflow in one direction. Because of the expense involved in processing these specimens, this service is limited to only one of the Public Health Laboratories.

The mycobacteriology laboratory processed 8100 specimens during the biennium, of which 152 were positive for **M. tuberculosis.** More than half of these positive cultures were submitted to determine the progress of the patient's treatment. A drug susceptibility test is performed on all first-time positive cultures.

SYPHILIS SEROLOGY

The number of blood specimens submitted for syphilis serology declined by 15,000 specimens over the previous biennium. The reason for this decline may be that some hospitals have discontinued the practice of drawing a routine blood sample for syphilis serology on all admissions.

An article recently published in the Journal of the American Medical Association questions the practice of mandating blood tests on all applicants for marriage licenses. The authors have concluded that the practice is not cost effective. It was estimated that it cost $60,000 to uncover each case of syphilis by this method.

A partial study of North Dakota's records going back thirty years indicates that it cost $37,000 to detect one case of syphilis by this screening method. In considering the cost effectiveness of this procedure several states have rescinded their premarital blood test law.

SAFE DRINKING WATER ACT

Section 1401(1) of the Safe Drinking Water Act (Public Law 93-523) defines primary drinking water regulations to include quality control testing procedures.

To meet part of the requirements of this Act the Central Laboratory at Bismarck was designated to serve as the State Principal Laboratory. Prior to this the Laboratory had applied for Interim Certification by EPA. After bringing the Laboratory into compliance by demonstrating the capability to carry out the chemistry and microbiology portions of the program, Interim Certification was granted. Full certification will follow in FY 1980.

The Division of Laboratories was assigned the responsibility to develop the documents and policies and to implement the procedures pertaining to laboratory analysis as required by EPA. In response to this assignment, questionnaires were sent to 18 water laboratories in the State. Eleven of these laboratories requested Interim Certification and were given on-site evaluations. Five laboratories received Interim or Provisional Certification and four others, while not participating in the Safe Drinking Water Act, were given Interim Approval.

For samples examined see table number 27.

NEONATAL SCREENING PROGRAM

Approximately 37,229 infants were tested for phenylketonuria and hypothyroidism under the neonatal screening program. Both PKU and hypothyroidism cause irreversible brain damage leading to moderate to severe mental retardation if not detected within the first three months of life. Because of the paucity of clinical symptoms it becomes necessary to utilize laboratory screening tests to detect these anomalies.

The incidence of PKU is one in 15,000 births while that of hypothyroidism is one in approximately 6,000 births. This year in North Dakota one infant with PKU and one with primary hypothyroidism were found. Because they were detected before three months of life, these infants can be treated and a good prognosis can be expected.

SERVICES PROVIDED

The services provided by the Division of Laboratories are summarized in the following tables. The figures represent specimens only and generally do not reflect the number of tests performed on each specimen. The effort put forth on one type of specimen might equal that expended on fifty of another type of specimen.

In order to equate different types of examinations a system of relative values has been developed. A relative value is a number, or weight assigned to a laboratory test which shows a relationship between that test and a chosen unit test in terms of human resources required to accomplish the task.

Table 24
LABORATORY SERVICES — TOTAL VOLUME OF SPECIMENS
July 1, 1977 - June 30, 1979

KIND OF SPECIMEN	Bismarck	Grand Forks	Total
Venereal Disease:			
Blood Specimen	39,745	56,664	96,409
Spinal Fluid	151	284	435
Gonorrhea	4,955	6,917	11,872
Darkfield Examination	4	39	43
Diagnostic Microbiology	37,858	61,928	99,786
Blood Specimens:			
Bacterial Serology	551	1,814	2,365
Antistreptolysin O Titer	52	468	520
Blood Grouping & Rh typing	9,626	14,333	23,959
PKU	37,229		37,229
T-4	33,931		33,931
TSH	1,084		1,084
Virus Specimens:			
Rubella	15,836	25,527	41,363
Serology		6,476	6,476
Immunofluorescence		4,073	4,073
Rabies		875	875
Environmental Bacteriology & Chemistry:			
Milk & Milk Products	7,643	7,408	15,051
Water Bacteriology	9,624	9,394	19,018
Environmental Contamination Control Plates	67	2,590	2,657
Streams & Lagoons	1,738	342	2,080
Sterility Tests	1,481	1,370	2,851
Chemistry, Water	10,616		10,616
Air Pollution	6,743		6,743
Radiological Samples	2,152		2,152
GRAND TOTAL	221,086	200,502	421,588

Table 25
CLINICAL SPECIMENS RECEIVED AND EXAMINED
FOR LABORATORY DIAGNOSIS
(excludes specimens for syphilis exam)
July 1, 1977 - June 30, 1979

KIND OF SPECIMEN	Bismarck	Grand Forks	Total
Blood:			
Agglutination	551	1,814	2,365
Antistreptolysin O Titer	52	468	520
Rh Typing	8,909	13,419	22,328
Blood Grouping	717	914	1,631
Culture:			
Blood	260	275	535
Fungus	649	306	955
Throat	14,886	28,467	43,353
Urine	1,453	9,611	11,064
Antibiotic Sensitivity	3,154	12,547	15,701
Miscellaneous Culture	4,342	5,214	9,556
Lancefield Grouping	636	-	636
Enteric	1,593	2,972	4,565
Anaerobic	114	341	455
Spinal Fluid	38	54	92
Referred Cultures	1,145	996	2,141
Parasitic Examinations:			
Blood and Intestinal	1,141	1,016	2,157
Gonorrhea:			
Smear	154	906	1,060
Culture	4,801	6,011	10,812
Tuberculosis:			
Sputa	4,913	-	4,913
Gastric	226	-	226
Urine	650	-	650
Other	2,311	-	2,311
Susceptibility Tests	76	-	76
Miscellaneous:			
Pinworms	48	9	57
Vincents		120	120
PKU	37,229	-	37,229
T-4	33,931	-	33,931
TSH	1,084	-	1,084
Darkfield Examination	4	39	43
Virus:			
Rubella	15,836	25,527	41,363
Serology	-	6,476	6,476
Immunofluorescence	-	4,073	4,073
Rabies:			
Referred from NDSU, Fargo	-	126	126
Received Direct	-	749	749
GRAND TOTAL SPECIMENS	140,903	122,450	263,353

385 TB Smears from Grand Forks Laboratory are not included in the above figure.

Table 26
SPECIMENS SUBMITTED FOR SYPHILIS SEROLOGY
July 1, 1977 - June 30, 1979

Bismarck Laboratory VDRL (Slide)/RPR	Reactors	Weakly Reactors	Non Reactors	Unsatisfactory	Total
Routine	277	20	24,025	129	24,451
Premarital	18	2	7,796	36	7,852
Prenatal	12	4	7,385	54	7,455
Spinal Fluid	-	-	138	-	138
TOTAL	307	26	39,344	219	39,896
Grand Forks Laboratory VDRL (Slide)/RPR					
Routine	522	14	33,376	431	34,343
Premarital	2	-	8,206	-	8,208
Prenatal	8	-	13,929	10	13,947
Spinal Fluid	1	-	295	1	297
Reference	37	-	97	-	134
TOTAL	570	14	55,903	442	56,929
Grand Total Both Laboratories VDRL (Slide)/RPR					
Routine	799	34	57,401	560	58,794
Premarital	20	2	16,002	36	16,060
Prenatal	20	4	21,314	64	21,402
Spinal Fluid	1	-	433	1	435
Reference	37	-	97	-	134
TOTAL	877	40	95,247	661	96,825

Table 27
ENVIRONMENTAL HEALTH LABORATORY SERVICES
July 1, 1977 - June 30, 1979

BACTERIOLOGY

Sample	Bismarck	Grand Forks	Total
Pasteurized Milk	2,772	4,144	6,916
Raw Milk & Cream	2,581	2,321	4,902
Direct Micro. Som. Cell Count	469	-	469
Frozen Dessert Products	2,076	943	3,019
Swab Samples	181	4	185
Rodac Plates	-	2,590	2,590
Private Water Supplies	2,950	1,585	4,535
Community Water Supplies	4,559	6,501	11,060
Non Community Water Supplies	304	-	304
Swimming Pool	1,811	1,308	3,119
Sterility Tests	1,421	1,369	2,790
Streams	819	46	865
Lagoons	919	296	1,215
TOTAL	20,862	21,107	41,969

Table 28
ENVIRONMENTAL HEALTH LABORATORY SERVICES
July 1, 1977 - June 30, 1979

CHEMISTRY-Bismarck Laboratory SAMPLE	Municipal	Private	Total
Water, Complete Analysis	430	1,060	1,490
Water, Partial Analysis	-	1,013	1,013
Water, Fluorides	2,077	-	2,077
Water, Nitrates	-	3,200	3,200
Sewage Samples	1,588	-	1,588
Stream Samples	459	-	459
Miscellaneous	-	-	695
TOTAL	4,554	5,273	10,522
AIR POLLUTION			
NO_2 Bubblers	-	-	1,506
SO_2 Bubblers	-	-	1,554
Hi Volume Filters	-	-	2,855
Other Air Samples	-	-	284
TOTAL	-	-	6,199
RADIATION PHYSICS	-	-	2,152

Table 29
ANCILLARY SERVICES
July 1, 1977-June 30, 1979

SPECIMENS KITS PREPARED AND SENT OUT	Bismarck	Grand Forks	Total
Serological	25,243	46,371	71,614
Miscellaneous, all purpose	27,595	17,564	45,159
Drypax	11,852	20,916	32,768
Tuberculosis	7,644	-	7,644
Isolation (Enteric)	2,458	4,124	6,582
Gonorrhea:			
Thayer Martin	41,154	-	41,154
Jembec	15,272	-	15,272
Slides	51	578	629
Water	7,015	9,753	16,768
Virus	-	2,285	2,285
PKU	48,082	-	48,082
Rodac	-	1,775	1,775
Shipments of Vaccine	156	59	215
Rabies (Doses)	1,232	413	1,645
TOTAL	187,754	103,838	291,592
MEDIA PREPARED (IN LITERS):			
Liquid Media	1,317	765	2,082
Solid Media	2,680	1,516	4,196
Tuberculosis	710		710
Stains & Solutions	329	435	764
TOTAL	5,036	2,716	7,752

PREVENTIVE SERVICES

DIVISION OF DENTAL HEALTH

DIVISION OF DISEASE CONTROL

DIVISION OF MATERNAL AND CHILD HEALTH

DIVISION OF NURSING

The Dental Division has carried out the following programs:

Expanded the weekly fluoride mouthrinse program to include 11,303 children in 106 schools in 25 counties. See Figure 5.

Expanded the daily flouride tablet program in schools to include 3,910 students in 34 schools. See Figure 5.

Presented dental health lectures and talks to nursing and dental hygiene students; to health unit and nursing home staffs; PTA, Homemaker and civic groups; as well as classroom and assembly talks in schools.

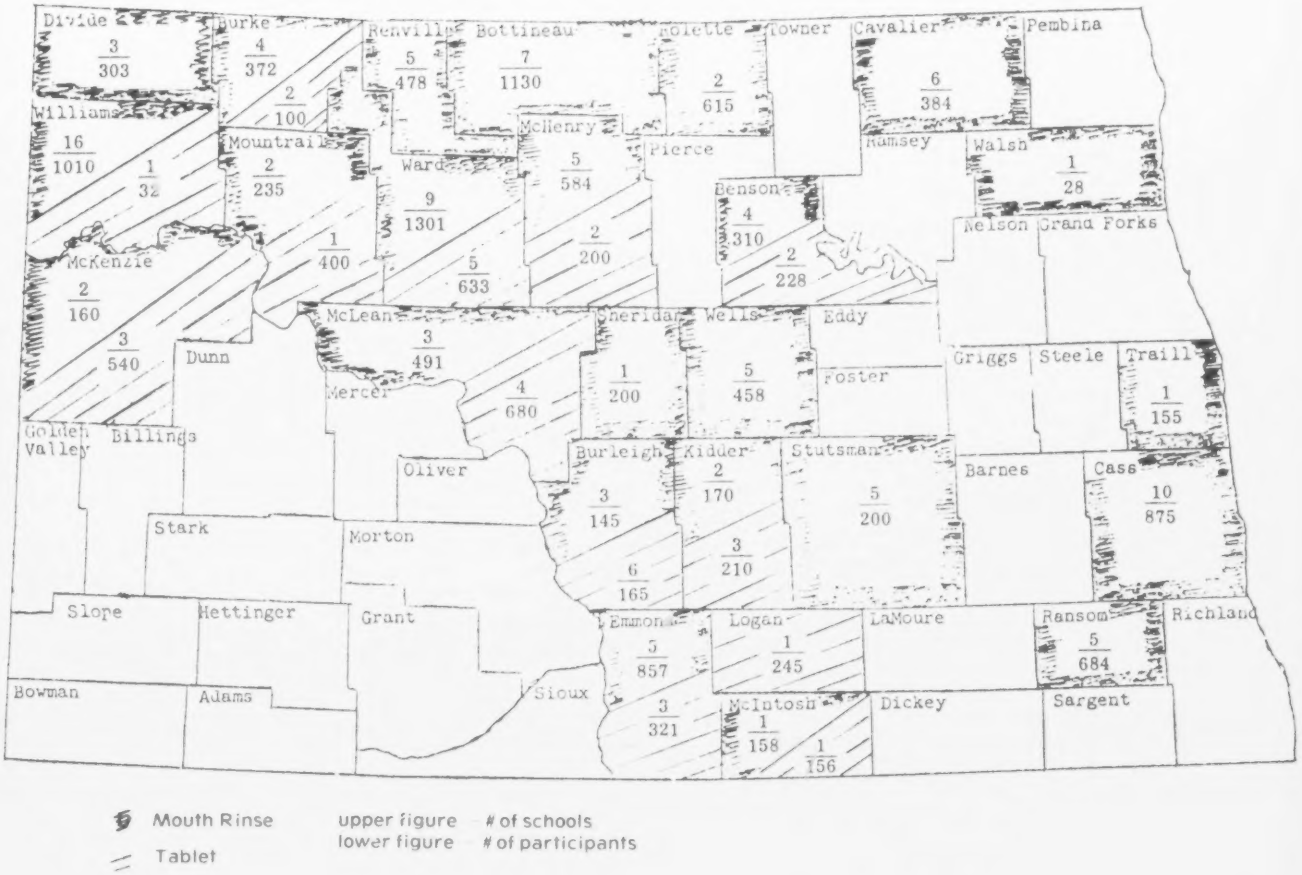
Promoted fluoridation through dental and engineering consultation.

Supplied oral hygiene instruction and fluoride self-application to headstart and migrant programs. Consultation was provided at Well Child and Health Maintenance clinics.

Distributed 2,165 dental health pamphlets and posters, and 246 coloring books as requested.

Provided consultation and treatment plan and fees review for the dental components of the Maternal and Child Health program of projects at the First District Health Unit in Minot.

FIGURE 5
North Dakota Mouth Rinse and Tablet Programs
June 1979



DIVISION OF DISEASE CONTROL

The tables on the morbidity of communicable diseases reported to the Division of Disease Control during the biennium originated with the private physicians or medical care agencies. Other sources of morbidity are public health nurses, schools, laboratory reports and death certificates. Table 30 indicates the disease reported during the period.

Anthrax

A 45 year old veterinarian had performed a postmortem on a cow that had anthrax. Six days later the veterinarian noticed a lesion on the dorsum of the left finger and was admitted to a hospital where a diagnosis of cutaneous anthrax was made. The diagnosis was confirmed by laboratory tests. The patient was hospitalized for five days.

Brucellosis

A 24 year old veterinarian had accidentally injected his left knee joint with brucella strain 19 while vaccinating cattle. His recovery was uneventful.

Encephalitis

During 1977 there were 85 under surveillance and upon completion of the surveillance the final diagnosis of five was Western equine encephalitis. Three of the cases were North Dakota residents and two were non residents.

During 1978 there were 57 under surveillance for encephalitis and no cases were reported. This is the only year with the exception of 1967 when there were no cases of Western equine encephalitis reported since 1924 in the State.

Infectious Hepatitis

During 1977 the 69 cases were evenly distributed among 20 counties with the highest number in Cass County with 10 cases. However, in 1978, there were 100 cases distributed in 14 counties and 40 percent of the total were in one county — Benson. Investigation in Benson County revealed no evidence of foodborne or waterborne disease transmission. Data analysis strongly suggested direct person to person transmission in the homes and schools.

The mode of transmission of the disease during the two year period, as evidenced by the epidemiological reports completed on all cases but three, appeared to be person to person contact. Health education measures were instituted whenever possible. The Department recommended gamma globulin be given to close household contacts.

Legionnaires' Disease

In the summer of 1976 an outbreak of unknown illness among the people attending the American Legion Convention in Philadelphia caused considerable alarm throughout the country. This illness was immediately called "Legionnaires' Disease." It became evident that much needed to be learned about the disease as sporadic cases with the same symptoms started to occur throughout the country. For this reason the states were requested to make Legionnaires' Disease a reportable disease. This was done in North Dakota in 1978.

The first laboratory confirmed case in North Dakota occurred in November of 1977 and was in a 67 year old male from Bismarck. This was the only case occurring in 1977.

In 1978 there were 9 cases reported. All of the cases with the exception of one occurred in males. The ages ranged from 33 to 74, with the median age 54. Two cases occurred in May, 3 in July, 1 in August and 3 in October. Of the 9 cases, 7 occurred in the Bismarck Mandan area, one in New England and one in Fargo.

One patient expired. The 55 year old male was admitted to the hospital on May 7, 1978 with a history indicating his illness started two weeks prior to admission to the hospital. He expired on June 12th.

Malaria

The malaria case reported in 1977 was an infection acquired outside the United States.

Rabies in Animals

Tables 31 and 32 indicate the species of animals that were laboratory confirmed with the disease as well as the number of individuals receiving rabies vaccine as a result of exposure to a suspected or positive rabid animal. The number of laboratory confirmed rabies in animals showed a slight decline in total number and consequently the number of individuals receiving rabies vaccine also decreased. A total of 117 vials of Rabies Immune Globulin and 2,405 doses of rabies vaccine were distributed during the biennium. This is a very expensive program as the Rabies Immune Globulin costs $35.00 per vial and the rabies vaccine costs $3.78 per dose.

There is consultation with the doctor in each exposure as to the pros and cons of giving the vaccine. After consultation there are some exposures where it is deemed not necessary to give the vaccine. Most physicians in the State utilize the consultive service of rabies exposures and follow the recommendations of the State Department of Health.

Rocky Mountain Spotted Fever

Only one case occurred during the biennium. What was unusual about this case was that it occurred in the eastern part of the State. In the past the cases have been in the western one third of the State. This case was laboratory confirmed. The man was cutting firewood on a tree farm in Traill County.

Smallpox

On Saturday, August 26, 1978, Dr. Foster from the Center for Disease Control in Atlanta, called to advise the North Dakota Health Department that he had just received a call from London, England. He stated there had been a case of smallpox reported as a result of exposure to the virus by a worker in a medical laboratory. There were 40 contacts of the case who needed to be placed under isolation and surveillance. Thirty nine of the contacts were in London and one contact was a 20 year old British woman who worked in the laboratory and had departed on August 18th for a two week vacation to visit in Mapes, North Dakota. Dr. Foster asked that isolation procedures be established immediately as required by World Health Recommendations.

An immediate trip by plane was made to the farm house where the girl was visiting. At the time of the first visit the afternoon of August 26th, the 20 year old woman was placed in isolation in an upstairs bedroom until August 28th at which time the 21st day period from her last contact with the case would expire. The seven people living in the household were vaccinated for smallpox on that same afternoon.

The contact was visited daily by health department personnel until the end of the isolation period.

There was one additional case in London among the contacts. However, the contact visiting in North Dakota did not develop the disease and she returned to London from North Dakota on September 8, 1978.

Typhoid Fever

A Fargo pediatrician reported a case of typhoid fever in an 8 year old Mexican migrant. The family of this boy had arrived in North Dakota 11 days prior to the diagnosis so the incubation period would indicate exposure may have occurred on the trip to North Dakota. The State Epidemiologist in Texas was called and requested to initiate epidemiological studies on the family where there was some contact with the boy. The family left North Dakota at the end of the season.

Tuberculosis

Tables 36 and 37 indicate the newly reported cases for 1977 and 1978 and the tuberculosis cases and death rates from 1924 through 1978.

Sixty five newly diagnosed active cases of tuberculosis were reported and added to the central tuberculosis register for supervision during the period. See table 38.

In addition to being on medical supervision all patients in the central register were visited by either a public health nurse or a field representative at designated intervals so they could be monitored, motivated, and encouraged to remain on treatment for the prescribed length of time, preferably two years. The public health nurses and field representatives must solicit all contacts from newly diagnosed patients in an effort to stop the chain of infection, expedient epidemiology is the ultimate to the location of new infections, cases, and eventually elimination of tuberculosis.

Of the 65 newly reported cases for 1977 and 1978, 35 were treated in general hospitals with an average stay of 29.2 days; 20 were treated on an ambulatory basis; six were treated in Indian Health Service hospitals with an average stay of 47.5 days; 4 were treated in military or veterans hospitals with an average stay of 60.2 days. Of the 35 treated in general hospitals only five were the financial obligation of the State Department of Health and interestingly enough their average stay was only 22.6 days, which is considerably less than any other category.

Of the 673 contacts elicited from new active cases, 625 were examined to determine whether they were infected or had active disease with an examination percentage of 93. Thirteen new active cases of tuberculosis were located within this group and placed on treatment. Twenty percent of the contacts that were examined were placed on preventive (prophylactic) treatment.

Anti tuberculosis medication for treatment of active disease as well as for preventive treatment is supplied, at no charge to the patient, from this division at the request of the patient's personal physician or through one of the existing outpatient clinics.

Naturally, with the steady decline of incidence of new infections the prevalence of infections statewide is declining due to the normal attrition rate. With this decline and complete epidemiology directed toward new cases, routine tuberculin testing programs were not recommended either in a school setting or for the general public. However, we do have areas, including some Indian reservations and larger cities, which have a high incidence and prevalence disease as well as a high reactor rate and it was in these areas, only if an outbreak of new cases occurred, that tuberculin testing clinics were held. During the biennium there were 5,406 tuberculin tests administered and 156 new reactors were found and 31 of these, or 20 percent, were placed on preventive treatment.

There are currently approximately 12,000 individual names maintained in the tuberculin reactor register. This register includes every known individual that is known to the State Department of Health to have reacted to the tuberculin test.

Tuberculin testing antigen is provided as a free service from the Department to any physician, hospital, nursing home, public health clinic, or any other health or medical facility.

Since tuberculosis is a preventable disease we are treating individuals before active disease occurs by providing any person in need of prophylactic treatment with the necessary medication. These individuals were placed on treatment with permission of their private physician or through one of the outpatient clinics if they preferred to utilize these facilities. During the period, 326 individuals were started on prophylactic treatment.

The utilization of the community health aides from the various reservations for followup purposes on the Indian reservations were very beneficial. These aides were able to assist our division personnel in monitoring and surveillance of all individuals on treatment and in need of medical evaluations.

During the biennium the Fargo and Minot outpatient clinics accomplished the following workload:

No. of cases evaluated	48
No. of contacts evaluated	551
No. of tuberculin tests performed	1555
No. of individuals receiving medication	781
No. of miscellaneous tests and procedures	3276

During the biennium $31,274.98 were expended for outpatient services including operation of the two outpatient clinics at Fargo and Minot.

As a result of the new management and treatment techniques for tuberculous patients a series of inservice workshops were held at hospitals and nursing homes in order to update their personnel. Interestingly enough, there has been renewed interest in TB control techniques among the hospitals and nursing homes and this new interest is attributed to the number of new cases in these facilities.

A milestone in tuberculosis control was achieved during 1978 when no deaths attributed to tuberculosis were recorded. This is the first year since statistics have been kept on tuberculosis that no tuberculosis deaths have occurred.

VENEREAL DISEASE

Tables 39 and 40 indicate the reported venereal disease by age group for 1977 and 1978.

Table 41 indicates the venereal diseases by county.

The reported cases of gonorrhea remained fairly consistent. There were 2,094 cases reported as compared to 2,028 during the last biennium.

All physicians who treat venereal diseases were visited routinely by field representatives to encourage reporting and followup on all cases.

Field representatives also worked closely with all laboratories, military installations and Indian reservations in the State.

Field representatives and public health nurses conducted 752 VD lectures and films to 15,887 students and other interested groups.

There were 3,563 persons examined at the five free venereal disease clinics. There is a need to maintain the established VD clinics in the State since over half of the persons seeking diagnosis and treatment at the clinics are from low income groups, minority groups and teenagers who would in all probability go undiagnosed until complications occurred.

A five day VD interviewing school and one day professional seminar for physicians and public health personnel were conducted.

The following interviewing and contact investigations were accomplished in the State during the biennium:

	EARLY SYPHILIS	GONORRHEA
Cases interviewed for contacts	15	1806
Contacts named by the cases	68	2441
Contacts located by the investigator	42	2282
Contacts examined and treated	30	1659
Contacts not infected and other disposition	12	623
Contacts referred out of State	26	103

IMMUNIZATION PROGRAM

The immunization program, initiated in 1964, is an integral part of the Division of Disease Control. The program is now designed to accomplish the following:

1. To obtain from the school system an immunization history of all children in North Dakota attending school and all preschool children attending kindergarten, nursery schools, head start programs, day care and child care facilities.
2. Prevent outbreaks of diseases for which there are effective vaccines by maintaining an outbreak control program and a continued surveillance of immunization levels on preschool and school children.
3. Administer the school immunization law which now requires adequate immunizations for all children attending school, kindergarten, head start programs, day care facilities, and nursery schools.
4. Maintain a recall record keeping system (tickler file) in each county for the purpose of notifying parents when children are due for immunizations.

The immunization program conducts a survey each year to establish the immunization level for school enterers and preschool children for diphtheria, pertussis, tetanus, poliomyelitis, measles, mumps, and rubella. Tables 42-46 indicate the percent protected for school enterers in North Dakota from 1972-1978 and Table 47 indicates the percent protected for preschool enterers.

There were 88 immunization clinics operating in North Dakota on a monthly basis during 1977 and 1978. The clinics were operated by local health departments with assistance from the immunization program. Table 48 indicates the number of immunizations given during 1977 and 1978 by local health departments. Figure 6 indicates the location of the local immunization clinics.

Vaccine for diphtheria, pertussis, tetanus, poliomyelitis, measles, mumps, and rubella was provided through the immunization program at no cost to public health nurses, private physicians, Indian reservations, and local health departments. Table 49 indicates the number of doses of vaccine provided during 1977 and 1978.

The school immunization law, which became effective July 1, 1975, was amended during the 1979 legislature. The amendments to the law are as follows:

1. The law now includes in addition to elementary schools the junior and senior high schools.
2. A Certificate of Immunization form must be properly completed and signed and presented to the school before any child can be admitted.
3. There are two exemptions — medical and religious:

Medical — the physical condition of the child is such that immunizations would endanger life or health. The Certificate must be signed by a physician.

Religious — The parent or guardian adheres to a belief whose teaching is opposed to such immunization and must be signed by a parent or guardian.

4. The enforcement is now the responsibility of a designated institution authority who shall be appointed by the governing board of each institution and whose name and phone number be submitted to the State Department of Health by July 1st of each year.
5. When, in the opinion of the health officer, danger of an epidemic exists from any of the communicable diseases for which immunization is required under this Act, the exemptions from immunization against such disease shall not be recognized and children not immunized shall be excluded from the institution until in the opinion of the health officer the danger of the epidemic is over. The designated institution authority shall notify those parents or guardians taking legal exception to the immunization requirements that their children will be excluded from school during an epidemic as determined by the State Department of Health.

The comprehensive checkbook type health records along with a suggested guide for immunization and other immunization promotional materials were furnished to mothers of newborns. Distribution was made through hospitals in North Dakota. The cost of health records was shared by the immunization program and the National Foundation — March of Dimes, North Dakota Chapter.

Scattered outbreaks of measles, mumps, and rubella occurred throughout North Dakota this biennium. All known cases were investigated and all susceptibles who were in contact with the cases were immunized within 48 hours or were referred to their physician for gamma globulin and recommendations to receive vaccine about six weeks later. Fortunately, all outbreaks were contained and the following number of cases were reported:

	1977	1978
Measles	29	211
Mumps	22	15
Rubella	25	83

Figure 6
1978 – LOCATION OF IMMUNIZATION CLINICS

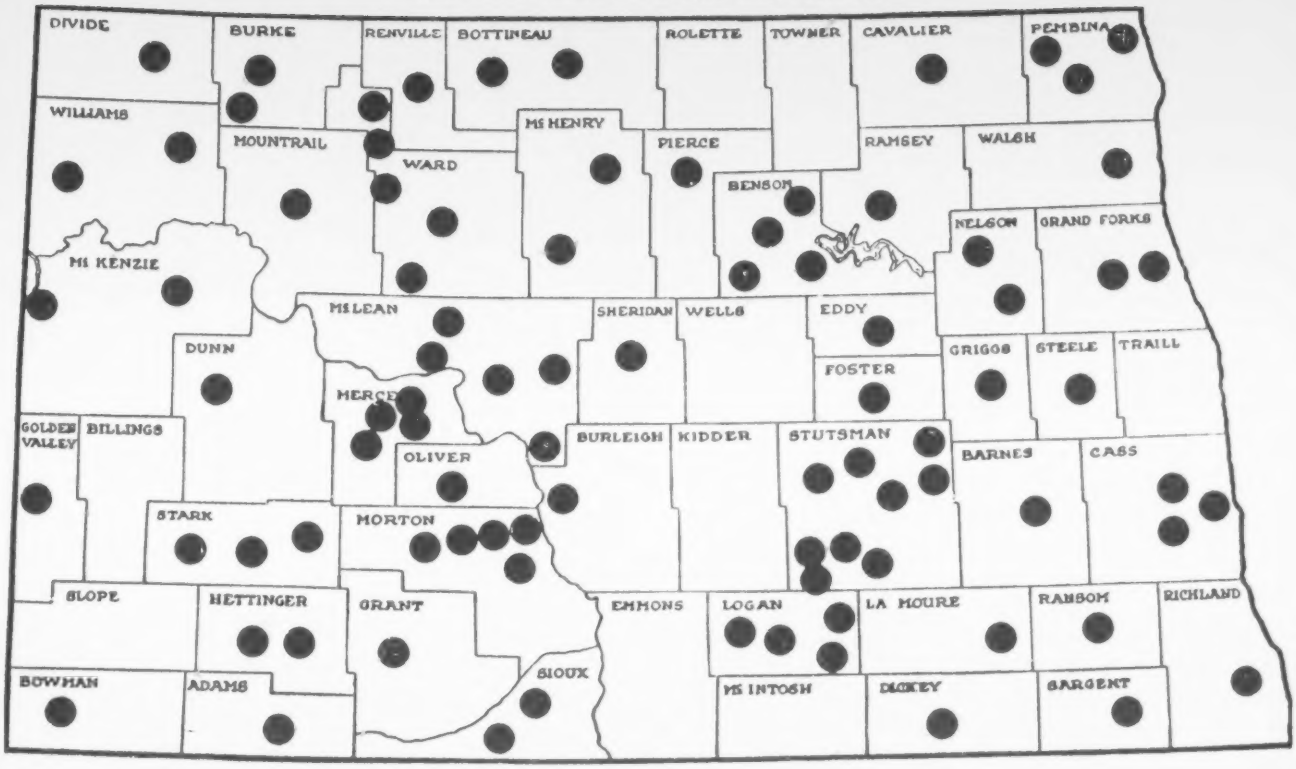


Table 30
COMMUNICABLE DISEASES REPORTED
1977 - 1978

	1977	1978
Anthrax		1
Ascariasis		1
Aseptic Meningitis	5	6
Blastomycosis	1	-
Brucellosis	-	1
Chancroid	1	-
Chickenpox	791	417
Conjunctivitis	1052	519
Encephalitis	3	-
Gonorrhea	1097	997
Impetigo	332	211
Infectious Hepatitis	69	100
Serum Hepatitis	10	10
Influenza & Influenza-like	3009	5192
Legionnaires' Disease	1	8
Malaria	1	-
Measles	29	211
Meningitis	1	3
Mumps	22	15
Poliomyelitis	1	-
Rabies In Animals	119	100
Rheumatic Fever	28	21
Rocky Mt. Spotted Fever	-	1
Rubella	25	83
Salmonellosis	62	48
Shigellosis	31	76
Streptococcal Infections	6127	4792
Syphilis	15	26
Tuberculosis	32	33
Typhoid Fever	1	-
Whooping Cough	3	8

Table 31
LABORATORY CONFIRMED RABIES IN ANIMALS

	1977	1978
Skunks	92	57
Bovines	12	33
Felines	6	2
Bats	4	3
Equines	2	2
Canines	-	1
Sheep	-	2
Raccoon	1	-
Coyote	1	-
Woodchuck	1	-
TOTAL	119	100

Table 32
NUMBER OF INDIVIDUALS RECEIVING RABIES VACCINE

ANIMAL INVOLVED	1977	1978
Felines	20	22
Canines	10	11
Bovine	16	50
Skunks	4	2
Squirrels	2	-
Bats	4	2
Equine	4	-
Muskrat	1	
Raccoon	1	
Badger	1	
Mouse	1	
Gopher	-	1
Fox	-	1
Coyote	-	1
Lamb	-	1
TOTAL	64	91

Table 33
PATIENTS ON RHEUMATIC FEVER REGISTRY AS OF JUNE 30, 1979

Males	345	45.1 percent
Females	420	54.9 percent
TOTAL	765	100.0 percent
Patients with Rheumatic Heart Disease	311	40.7 percent
Questionable Heart Disease	155	20.3 percent
No Rheumatic Heart Disease	299	39.0 percent
TOTAL	765	100.0 percent

Patients on Bicillin	78	10.2 percent	936	Vials	$2,954.02
Penicillin Tablets 1 a day	103	13.5 percent	193	Bottles P	212.30
			183	Bottles S	274.50
Penicillin Tablets 2 a day	553	72.3 percent	2,063	Bottles P	2,269.30
			1,974	Bottles S	2,961.00
Sulfadiazine Tablets 1 a day	4	.5 percent	14	Bottles	45.64
Sulfadiazine Tablets 2 a day	27	3.5 percent	194	Bottles	632.44
TOTAL					$9,348.93
Average cost per patient based on the average price for medication from July 1, 1978 through June 30, 1979					$12.22

Table 34
RHEUMATIC FEVER SECONDARY PROPHYLAXIS REGISTRY
AGE GROUP OF PATIENTS REGISTERED
AS OF JUNE 30, 1979

Age Group First Attack	Males	Females	Total	Percent
0 - 4	27	40	67	8.76%
5 - 9	112	111	223	29.15%
10 - 14	100	107	207	27.06%
15 - 19	34	48	82	10.72%
20 - 29	12	36	48	6.28%
30 - 39	10	10	20	2.61%
40 - 49	7	11	18	2.35%
50 Plus	1	5	6	.78%
Unknown	42	52	94	12.29%
TOTAL	345	420	765	100.00%

Table 35
PATIENTS ON RHEUMATIC FEVER REGISTRY
June 30, 1979

ADAMS	5
BARNES	12
BENSON	4
BILLINGS	1
BOTTINEAU	8
BOWMAN	8
BURKE	4
BURLEIGH	48
CASS	47
CAVALIER	8
DICKEY	2
DIVIDE	10
DUNN	10
EDDY	2
EMMONS	7
FOSTER	6
GOLDEN VALLEY	2
GRAND FORKS	89
GRANT	22
GRIGGS	8
HETTINGER	25
KIDDER	5
LAMOURE	7
LOGAN	7
McHENRY	7
McINTOSH	12
McKENZIE	5
McLEAN	13
MERCER	8
MORTON	29
MOUNTRAIL	13
NELSON	4
OLIVER	3
PEMBINA	15
PIERCE	6
RAMSEY	20
RANSOM	13
RENVILLE	11
RICHLAND	10
ROLETTE	23
SARGENT	7
SHERIDAN	2
SIOUX	2
SLOPE	2
STARK	41
STEELE	0
STUTSMAN	21
TOWNER	16
TRAILL	15
WALSH	13
WARD	61
WELLS	15
WILLIAMS	31
TOTAL	765

Table 36
NEWLY REPORTED TUBERCULOSIS CASES, 1977-1978

	1977	1978
TOTAL CASES REPORTED	32	33
Source of Report:		
Private Physicians	27	20
Tuberculosis Sanatoria	—	—
VA Hospitals	—	1
PHS Physicians	2	11
USAF Physicians	2	1
Death Certificates	—	—
Transferred from Other States	—	—
Mental Institutions	—	—
Chest Clinics	1	—
Race and Sex of Newly Reported Cases:		
Non-Indian	23	18
Male	16	13
Female	7	5
Indian	9	15
Male	1	7
Female	8	8
Age Distribution of Newly Reported Cases:		
Under 5 years	1	4
5 years to 14 years	1	1
15 years to 24 years	2	5
25 years to 44 years	7	4
45 years to 64 years	12	10
65 years and over	9	9
Not specified	-	-
Stage of Disease When Reported:		
Pulmonary	25	31
Non-Pulmonary	7	2
Number of Newly Reported Cases for Whom Tubercle Baccilli have been demonstrated:	25	23

Table 37
NEW ACTIVE TUBERCULOSIS CASE AND DEATH RATES
PER 100,000 POPULATION — 1924 THROUGH 1978

YEAR	CASES	CASE RATE	DEATHS	DEATH RATE
1978	33	5.0	0	
1977	32	4.9	3	.5
1976	40	6.3	5	.8
1975	25	3.9	2	.3
1974	36	5.6	5	.8
1973	44	6.9	9	1.4
1972	31	4.9	5	.8
1971	51	8.3	9	1.4
1970	35	5.7	6	1.0
1969	68	10.8	6	1.0
1968	45	7.1	9	1.4
1967	49	7.7	9	1.4
1966	42	6.6	7	1.1
1965	49	7.7	10	1.5
1964	66	10.4	6	.9
1963	88	13.9	10	1.5
1962	77	12.1	8	1.2
1961	88	13.9	8	1.2
1960	109	17.2	13	2.0
1959	109	16.9	7	1.0
1958	91	14.2	14	2.1
1957	116	18.0	23	3.5
1956	117	18.2	17	2.6
1955	146	23.1	22	3.4
1954	171	27.0	28	4.4
1953	214	34.2	31	4.9
1952	206	33.3	45	7.2
1951	218	35.6	60	9.8
1950	292	47.4	75	12.1
1949	246	42.1	60	10.2
1948	346	61.5	57	10.1
1947	295	53.3	83	15.0
1946	197	36.4	86	15.8
1945	234	44.8	113	21.6
1944	298	56.9	83	15.8
1943	330	60.0	125	22.7
1942	441	75.1	121	20.6
1941	502	81.4	121	19.6
1940	283	44.4	122	19.1
1939	372	58.0	143	22.3
1938	249	38.9	139	21.7
1937	273	42.3	180	27.9
1936	236	36.2	172	26.3
1935	318	48.3	169	25.7
1934	258	39.0	177	26.8
1933	187	28.2	167	25.1
1932	435	65.1	191	28.6
1931	597	88.4	184	27.2
1930	437	64.2	222	32.6
1929	493	72.7	227	33.4
1928	328	48.6	289	42.8
1927	116	17.2	301	44.8
1926	161	24.0	278	41.5
1925	109	16.4	309	46.5
1924	223	33.6	276	41.6

Table 38
TUBERCULOSIS
CENTRAL REGISTER SUMMARY REPORT

Cases in Central Register — January 1, 1977		66
Cases Added to Central Register during 1977 and 1978		73
Newly Reported	65	
Transferred from other states	8	
Cases Transferred from Central Register to Inactive Register		79
Expired	13	
Moved out of State	20	
Unable to locate in State	0	
Inactive and completed chemotherapy	46	
Cases in Central Register — December 31, 1978		60

Table 39
SYPHILIS CASES BY STAGE AND AGE GROUP
1977 - 1978

	Primary & Secondary		Early Latent		Late Latent		Late Tertiary		Neuro Syphilis		Cardio Vascular		Congenital		Not Given	
	1977	1978	1977	1978	1977	1978	1977	1978	1977	1978	1977	1978	1977	1978	1977	1978
Under 1																
1-14																
15-24	4	5				1								1		
25-44	1	5			4	2	1									
45-64					3	6		2								
65 & Over					1	4	1									
Unknown																
TOTAL	5	10			8	13	2	2						1		

Table 40
GONORRHEA CASES BY AGE GROUP
1977 - 1978

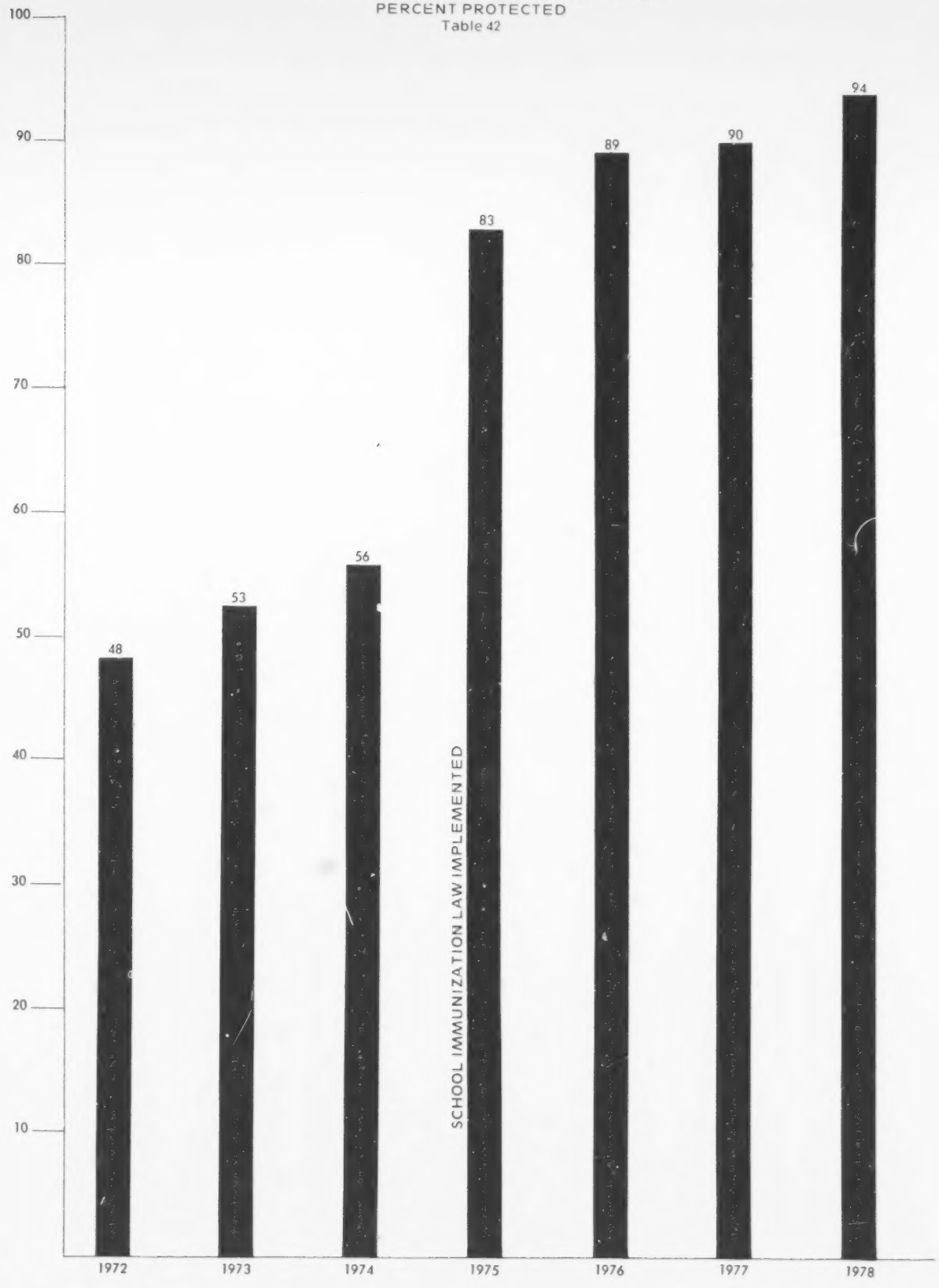
	1977	1978
Under 10	2	
10 - 14	4	3
15 - 19	195	191
20 - 24	523	431
25 - 29	216	218
30 - 34	66	85
35 - 39	17	24
40 - 49	30	24
50 & Over	9	6
Not Given	35	15
TOTAL	1097	997

Table 41

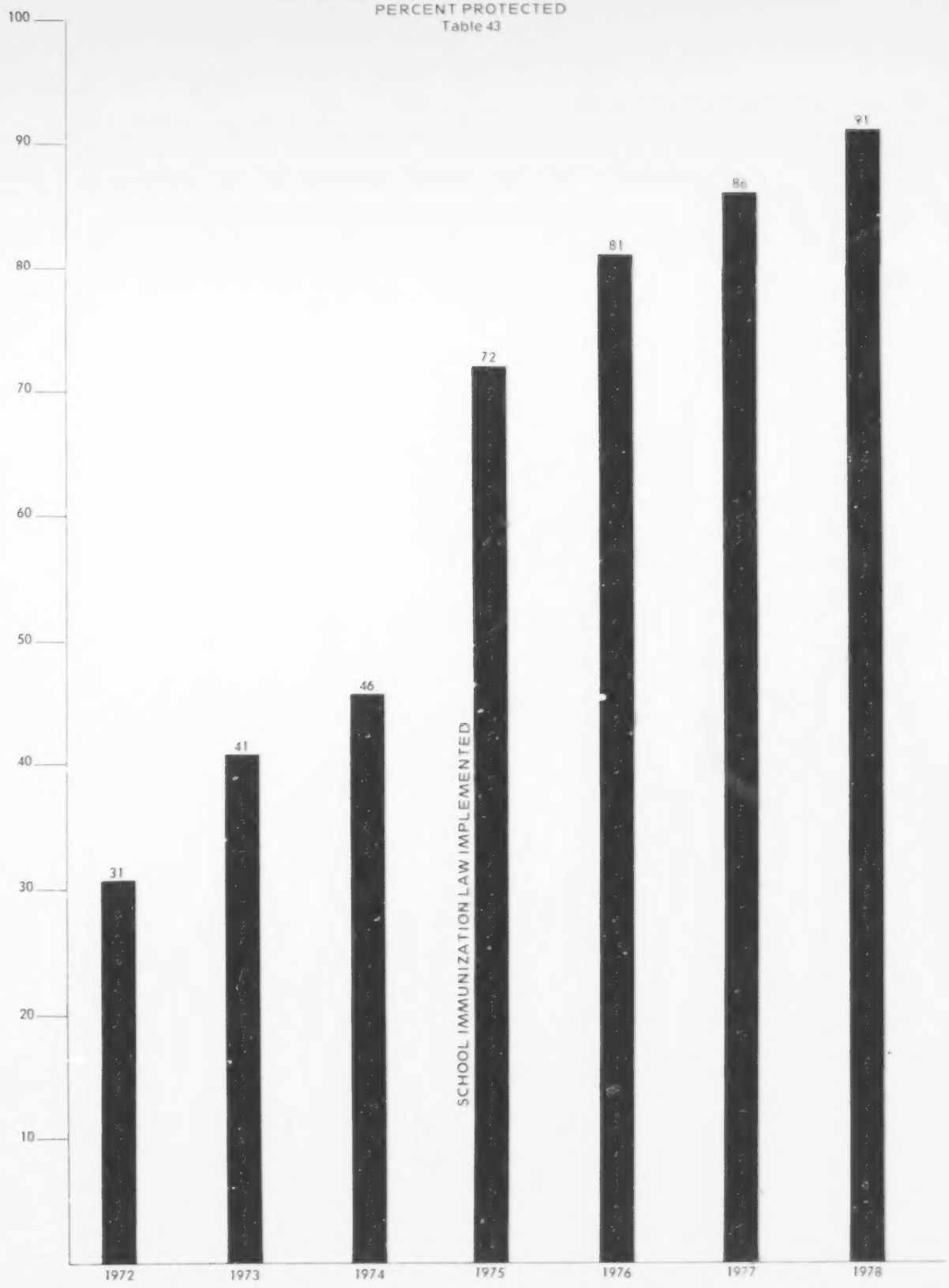
VENEREAL DISEASES REPORTED BY COUNTY — 1977 & 1978

	SYPHILIS		GONORRHEA	
	1977	1978	1977	1978
Adams		1	1	
Barnes			2	1
Valley City			14	8
Benson			22	35
Billings			1	
Bottineau			7	
Bowman			1	2
Burke				1
Burleigh			11	7
Bismarck			119	135
Cass		2	24	26
Fargo	2	3	189	158
Cavalier			1	
Dickey			1	1
Divide			1	
Dunn			2	
Eddy			2	1
Emmons		1		1
Foster				
Golden Valley				
Grand Forks	1	7	106	72
Grand Forks		2	117	106
Grant			1	2
Griggs				1
Hettinger			2	1
Kidder			2	2
LaMoure			1	
Logan				
McHenry			1	1
McIntosh			3	
McKenzie			6	3
McLean			5	6
Mercer	1		3	6
Morton	1		3	6
Mandan	1	1	21	24
Mountrail		1	21	19
Nelson				
Oliver			1	1
Pembina			4	3
Pierce			1	2
Ramsey	1		4	3
Devils Lake	1		9	13
Ransom			1	
Renville			2	
Richland			15	9
Rolette	1	2	43	39
Sargent			1	1
Sheridan			1	
Sioux	1		132	68
Slope				
Stark		2	3	3
Dickinson			9	11
Steele				1
Stutsman		1	2	2
Jamestown			14	21
Towner				3
Traill				8
Walsh			4	7
Ward	2	1	75	61
Minot	3	2	60	86
Wells			3	4
Williams			4	5
Williston			19	21
TOTAL	15	26	1097	997

DPT
IMMUNIZATION STATUS OF SCHOOL CHILDREN
PERCENT PROTECTED
Table 42

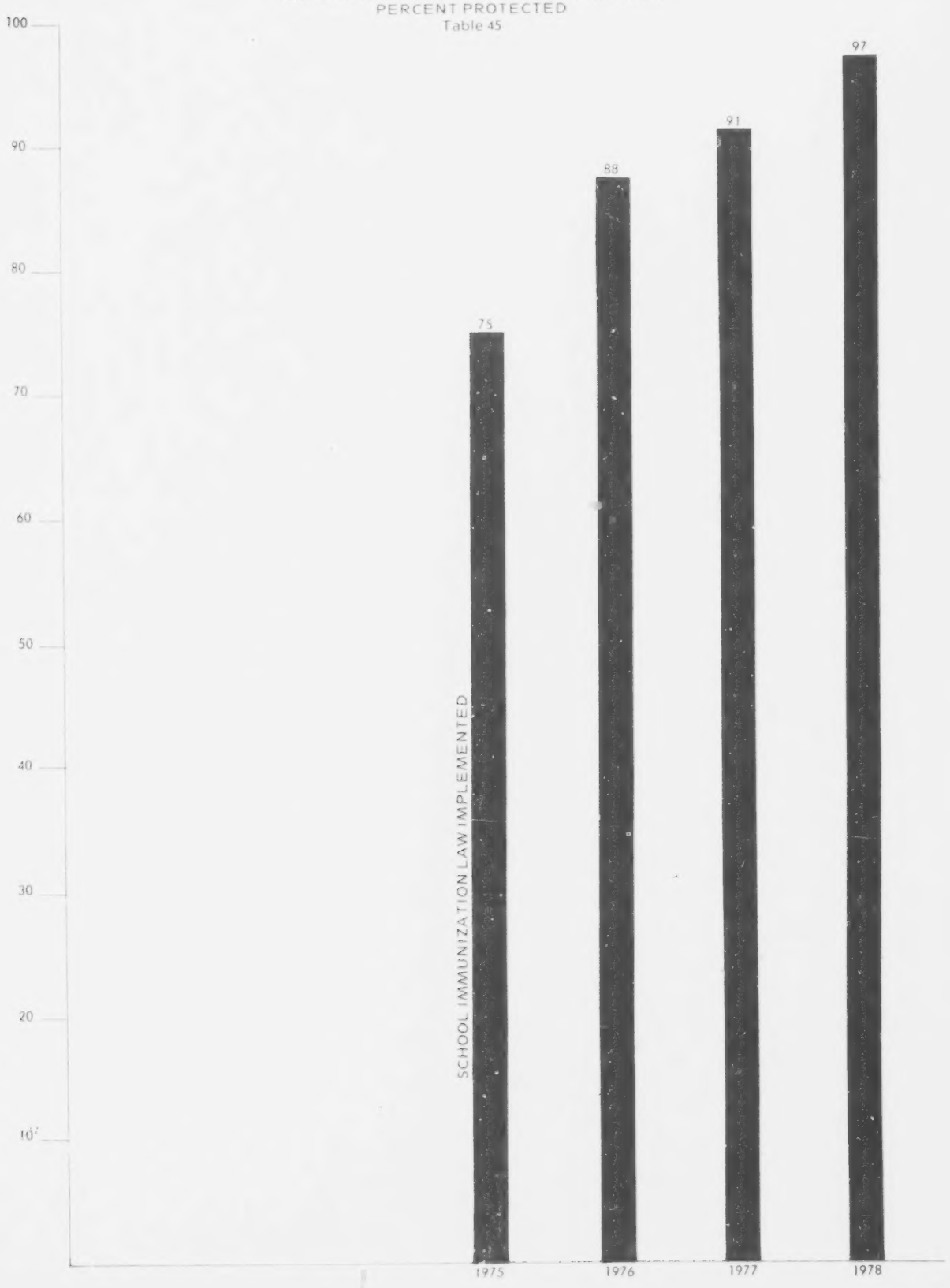


POLIO
IMMUNIZATION STATUS OF SCHOOL CHILDREN
PERCENT PROTECTED
Table 43



MEASLES
IMMUNIZATION STATUS OF SCHOOL CHILDREN
PERCENT PROTECTED
Table 44

MUMPS
IMMUNIZATION STATUS OF SCHOOL CHILDREN
PERCENT PROTECTED
Table 45



RUBELLA
IMMUNIZATION STATUS OF SCHOOL CHILDREN
PERCENT PROTECTED
Table 46

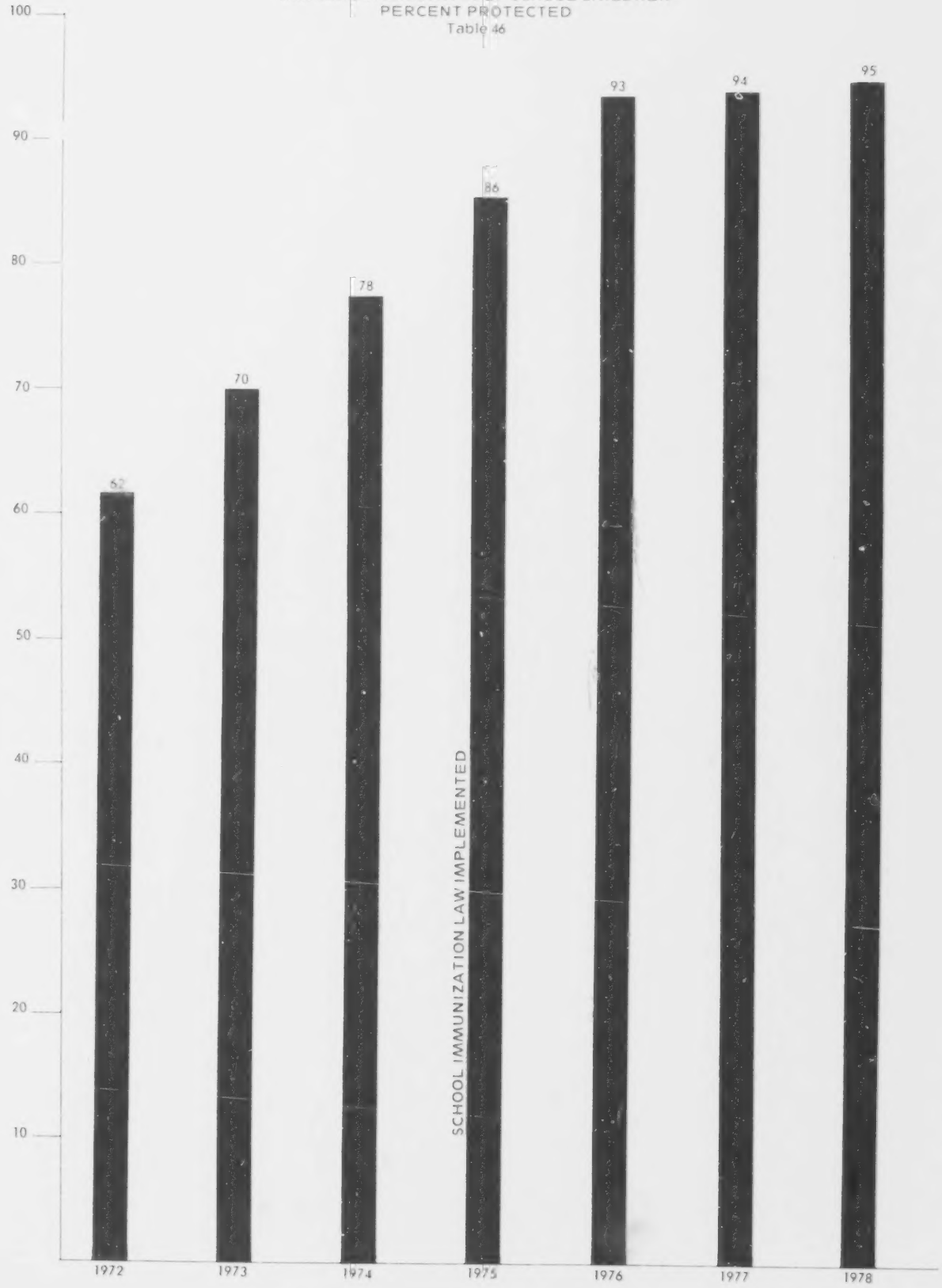


Table 47
IMMUNIZATION STATUS OF PRE-SCHOOL CHILDREN
PERCENT PROTECTED*

VACCINE	1972	1973	1974	1975	1976	1977	1978
DPT	63	88	NA	92	92	95	96
POLIO	48	75	NA	88	92	96	95
MEASLES	49	81	NA	88	91	94	94
MUMPS	NA	NA	NA	75	89	92	92
RUBELLA	48	78	NA	84	91	94	94

*ADEQUATE PROTECTION IS CONSIDERED TO BE A SERIES OF THREE IMMUNIZATIONS FOR DPT AND POLIO

Table 48
IMMUNIZATIONS GIVEN BY LOCAL HEALTH DEPARTMENTS
1977-1978

VACCINE	<1	1-4	5-9	10+	TOTALS
DPT	18,856	15,359	11,141		45,356
TD			5,428	14,362	19,790
POLIO	17,239	14,474	13,834	9,200	54,747
MEASLES		11,273	7,574	11,316	30,163
MUMPS		11,069	7,388	10,361	28,818
RUBELLA		11,038	7,207	9,124	27,369

Table 49
VACCINE DISTRIBUTED DURING 1977 & 1978

VACCINE	1977	1978
DPT	19,710	30,525
TD	8,370	19,673
POLIO	27,270	37,380
MEASLES	16,075	18,071
MUMPS	15,355	16,445
RUBELLA	15,355	15,445

DIVISION OF MATERNAL AND CHILD HEALTH

During this biennium, staff of the Division of Maternal and Child Health carried out the following activities to help achieve its overall goal of improving the health of mothers and children:

MATERNAL AND CHILD HEALTH NURSING

As well as providing maternal and child health nursing consultation to public health nurses, hospital/clinic nurses, school and special education personnel, and other health and social agencies, the nurse consultants were involved in the following programs:

Sudden Infant Death Syndrome Management Program

Since the enactment of the sudden infant death syndrome legislation, July 1, 1977, 83% of the cases have been autopsied with 67% of those paid for under the North Dakota State Program. Sudden infant death syndrome was diagnosed in 41 of the total 43 cases. Information about sudden infant death syndrome, along with follow up counseling, has been provided to 69% of these families by nursing personnel, social workers, clergy, funeral directors, as well as State Health Department staff. In service training sessions for professionals and informational sessions for the lay public reached over 3,300 individuals. In addition, public awareness programs through news articles, television, and radio were accomplished.

Information about sudden infant death syndrome and the North Dakota Management Program was mailed to approximately 6,600 professional and para professionals.

Child Health Nursing Conferences

The Child Health Nursing Conference is a service with planned serial observations and health supervision of the child, from birth to six years of age. It includes primary history taking, assessment of physical growth and development, anticipatory guidance and protective health measures. The services are conducted by the public health nurses in 54 areas of the state.

The division provides assistance and support through the purchase of equipment and supplies for the conferences, as well as the consultation services. An evaluation of the ongoing conferences was conducted in the fall of 1978. In an effort to fulfill the recommendations from the evaluation, workshops were held to upgrade screening procedures, indentify minimum screening standards and review physical assessment skills.

Perinatal Program

Through the combined efforts of the Maternal and Child Health Division, the Great Plains Organization for Perinatal Health Care and the National Foundation of March of Dimes, a program was developed to improve perinatal health services in North Dakota. The first phase of the program consisted of a survey of the current obstetrical and newborn services offered in the

hospitals throughout the state. The second phase, in service educational sessions, is aimed at updating perinatal nursing skills and tailored to meet the requirements of the individual hospitals as based on the identified needs from the survey. Participation in the survey and educational program are on a voluntary basis. The goals of the program are to: (1) provide knowledge and skills practice in perinatal care which will improve the quality of care given to child bearing families; (2) facilitate the development of criteria for referrals of high risk mothers and infants; (3) promote development of regionalization concept of high risk perinatal care; (4) update practices and equipment to meet standards of perinatal care as set forth by the American Academy of Pediatrics, American Nurses Association, American Medical Association and Nurses Association of the American College of Obstetricians and Gynecologists; (5) stimulate intra and inter professional communication and collaboration in perinatal care planning and implementation. The program consists of 23 modules and is conducted by registered nurses with experience in maternal and infant care areas.

Expectant Parent Classes and Early Parenting Classes

Classes devoted to preparing parents for pregnancy, childbirth and early parenting are conducted statewide by a variety of professional people and trained lay persons. These classes include basic information on pregnancy, childbirth, breastfeeding, mother infant bonding and special areas of interest such as LaMaze, LeBoyer, LeLeche League and Parents Anonymous.

The division conducted a statewide workshop "The State of Childbirth" in September 1978 with 125 participating professionals. Following the workshop, booklets on "Guidelines for Teaching Prenatal Course" and "Prenatal and Post Partum Exercises," as well as a number of current teaching films, have been made available for use in prenatal and early parenting classes.

Pre School Hearing Project

The division obtained funding for a special grant for a hearing screening program for four and five year old children for an eight county area in southwestern North Dakota. The purpose of the program was to detect hearing loss or ear infection and to initiate treatment for detected problems, as well as the integration of the screening procedures into an ongoing child health program. The program consisted of developing and conducting in service training for public health nurses; procurement of and repair of screening equipment; development of an informational package for use in local communities and consultative services at numerous screening sites.

Of the total 676 preschoolers screened, 29 were referred immediately for further care and 91 were re screened at a later date with 41 referrals. The results of this screening program indicated that the use of the Impedance Method screens out more potential problems than the Audiometric Method alone.

Scoliosis Screening Program

A scoliosis screening workshop was held in five sites in August 1978 for 150 school personnel, public health nurses and social workers. The workshop was designed to provide training and information necessary for establishing a scoliosis screening program in the schools.

The development of a guidelines booklet and a public informational packet, as well as teaching films were made available to those health agencies and school systems wishing to start a scoliosis screening program.

Although the statistical information is not yet available, agencies in 40 counties utilized the materials available for the screening program.

Parents Anonymous

The division provides funding to Parents Anonymous, which is a crisis intervention program with the primary objective of helping to prevent damaging relationships between parents and their children. There are seven chapters in North Dakota located in Hazen, Bismarck, Grand Forks, Jamestown, Fargo, Minot and Minot Air Force Base. The funds were partially used to tie in with the Mental Health Association's toll free crisis line. Approximately 20 hospital employees and volunteers were trained in crisis line work. Presentations were given by division staff at chapter and state Parents Anonymous meetings and copies of a pamphlet entitled "Reverse Attention" were made available for distribution.

NUTRITION PROGRAM/WIC NUTRITION SERVICES

Maternal Nutrition

Because evidence supports the fact that (1) the nutritional status of the pregnant woman is directly related to pregnancy outcome; and (2) that infant morbidity and mortality can be reduced through nutrition intervention and education, maternal nutrition was a major program emphasis. This resulted in recruitment of four qualified nutritionists (one under National Health Service Corps support) who are developing educational components to the various division programs involving maternal health. (Improved Child Health Project, Supplemental Food Program for Women, Infants, and Children, Demonstration Maternal Nutrition Project, District Health Program.)

To further encourage and expand maternal nutrition efforts, the division provided full or partial support for six nutritionists at three national maternal symposiums. This has resulted in improved counseling to clients and increased effort to reach the patient who is potentially a high risk pregnancy.

A highlite of maternal nutrition activities was the participation of the division director in a three week maternal nutrition internship at the Montreal Diet Dispensary, Montreal, Canada. The internship is for key professionals working in the field of perinatal care; the methods of nutrition counseling and education employed at the dispensary have documented evidence on improved pregnancy outcome due to participation in the program. The division is now adapting this method of nutrition counseling as an attempt to improve pregnancy outcome in the various projects.

Infant Nutrition

Infant nutrition activities involved three areas: (1) updating the professionals' knowledge of current infant feeding practices; (2) encouragement of breastfeeding; (3) specific nutritional needs of high risk infants. The division, therefore, sponsored the attendance of four physician nutritionist nurse teams at the University of Iowa Infant Nutrition Course and a nurse nutritionist team at a High Risk Infant Nutrition Symposium. Immediate results were positive changes in current infant feeding recommendations by practicing physicians and improved counseling skills by nurses and nutritionists. Special funding has been received for a seminar for hospital and clinic obstetrical staff and public health staff for "Developing a Breastfeeding Support Program."

Special Supplemental Food Program for Women, Infants and Children (WIC)

The WIC Program, a U.S. Department of Agriculture funded food/nutrition program, has been administered by the division since 1975. This program, which has grown from 2,500 to 8,000 participants in the last two years, is one of the most effective preventive health programs in operation. The program not only provides specific foods to women, infants and children at nutritional risk, it provides nutrition education appropriate to each participant. An excellent nutrition education program has been developed by the nutrition education coordinator and is provided by professional nutritionists. Current funding limits the program to 25 counties.

Nutrition for the Athlete

Reported nutritional abuses of adolescent athletes is far too common; consequently, the division co sponsored a "Nutrition for the Athlete" Seminar in March 1978. One hundred sixteen coaches, physical education instructors and nutritionists attended.

The main objective of the activity was to instruct coaches in the special nutrition needs of adolescent athletes. A report of the event appeared in two professional publications; subsequently, inquiries regarding the conference were received from 10 states. Interest stimulated within the state resulted in a similar conference conducted by a state college.

Food Service Supervisors Correspondence Course

Coordination of this project, which was developed by the nutritionist in 1972, was transferred to the University of North Dakota, Division of Correspondence Study in September 1977. Since the program was implemented, 1,251 individuals from across the United States have enrolled in the course, and 1,425 have completed this program and thus are able to meet the requirements of various licensing agencies and federal health care programs.

Phenylketonuria (PKU)

The division continues to provide special formula and nutrition counseling to four families of children with phenylkentonuria.

FAMILY PLANNING

Voluntary family planning services have been administered through the North Dakota State Department of Health since July 1973. The target population for services is low income women in their childbearing years of which there are an estimated 18,000 in North Dakota. Current estimates indicate that over 9,900 women are being served.

Through comprehensive medical, educational, and social family planning services, the program seeks to not only reduce the incidence of health problems, but also to alleviate the social and economic consequences associated with untimely pregnancies. Thus, individuals can adequately determine the number and spacing of their children so that they are better prepared to take on the demands of responsible parenthood.

The following are the major activities carried out during the biennium:

1. Distributed over $820,000 in federal funds to 10 delegate agencies, of which $229,000 were supplemental funds for use in expanding the family planning program to unserved counties in North Dakota. Clinical services were available in Williston, Minot, Garrison, Devils Lake, Grand Forks, Mayville, Fargo, Wahpeton, Valley City, Oakes, Jamestown, Bismarck, Dickinson and Hettinger.
2. Enrolled 5,600 new clients into the program, of which an estimated 3,679 (65%) were in the target population.
3. Expanded the outreach program in the counties served by the delegate agencies located in Minot, Devils Lake, Grand Forks, Jamestown, Mandan and Dickinson.
4. Arranged for nurse practitioner training for family planning nursing staff from Minot, Grand Forks, Fargo and Dickinson.
5. Arranged for training programs to improve the management capabilities of the delegate agency project directors.
6. Employed a full time nurse coordinator to provide technical assistance in the provision of clinical services to the delegate agencies.
7. Implemented a system for conducting internal medical audits as part of an overall quality assurance program.
8. Arranged for and implemented a training program to certify at least one instructor from each delegate agency in Natural Family Planning methods.
9. Arranged for workshops to update the skills and knowledge of the nursing and outreach staff of the family planning clinics.

SEX EDUCATION

In June 1978, plans for the development of a sex education curriculum guide that would later be included in a K-12 comprehensive health education curriculum guide were initiated. A statewide advisory committee was formed to help coordinate efforts in selecting resources, reviewing curricula and previewing audio visuals for the suggested sex education curriculum guide. Two workshops were conducted for administrators and teachers to enable them to comment on the format, structure and feasibility of implementation of the sex education curriculum guide.

PROGRAM OF PROJECTS

The Program of Projects, which consists of five elements designed to provide comprehensive health care to women and children who would not otherwise receive care because they are from low income families or for other reasons beyond their control, continued in full operation during this biennium. The five elements are Maternal and Infant, Intensive Care of the Newborn, Family Planning, Children and Youth and Dental Care. The Program of Projects is administered through the First District Health Unit in Minot.

Program activities are geared to increasing the availability and quality of services, reducing maternal and infant mortality and the incidence of premature births; and include casefinding, preventive health services, diagnosis, treatment and aftercare and the promotion and monitoring of normal growths and development.

Approximately 2,450 individuals were provided care through the various projects.

CERVICAL CANCER SCREENING PROGRAM

Within the limitations of the resources available, the major goal of the Cervical Cancer Screening Program is to reduce the incidence of and mortality from invasive cancer of the cervix uteri by early detection (using the cytologic examination) and treatment. The priority population to be served by this program are those women who are considered to be at high risk, which is defined as 35 years of age and older, who are low income and who have not had a pap test within the past 12 months. The screening services offered to each woman at all of the sites include a pap smear, pelvic examination, breast examination and blood pressure check. Educational materials on the pap test, uterine cancer, self breast examination, etc. are available at all sites also.

As is the case with the Family Planning Program, services are delivered via sub grants made by the State Health Department with public and private agencies across the state. Currently, there are sites established in Grand Forks — Family Practice Center; Fargo — Family Practice Center; Jamestown — City/County Health Unit; Bismarck — City Nursing Service; Minot — First District Health Unit; Williston — Joseph Adducci, MD; and Dickinson — Southwestern District Health Unit, which provide screening on a monthly basis to women in their respective areas. In addition to the monthly sites, there are a series of one day clinics that are aimed at providing services to the smaller, more rural communities which are distant from the population centers and therefore have less access to the large clinics.

The program, which was a three year demonstration project, has reached the end of its contract period as of June 30, 1979. One health unit will continue to offer the services as part of a comprehensive health program. There has also been an increase in annual pap clinics in the smaller communities which has been stimulated by the media coverage of the Cervical Cancer Screening Program clinics.

IMPROVED CHILD HEALTH PROJECT

The Improved Child Health Project, a federally funded project, is aimed at reducing infant mortality rates, specifically at Fort Totten and Standing Rock while Fort Berthold has the family planning component.

In November 1979, a nutritionist through the Health Service Corps started at the Fort Totten Project and is providing nutrition counseling and education programs. Plans are underway to obtain a nutritionist through Health Service Corps for the Fort Berthold Reservation.

Classes in maternal and child health nursing were developed and completed for the community health representatives at Standing Rock Indian Reservation.

Protocol for "home visit of new mother and baby" and "assessment of the newborn" was development for the community health representatives at Standing Rock.

Work was completed on culturally oriented health pamphlets entitled "Breastfeeding" and 'Prenatal Care."

OTHER PROGRAMS AND PROJECTS

Child Abuse and Neglect

Staff members of the division work in cooperation with the Child Abuse and Neglect Program sponsored by the Social Service Board, in addition to providing funding for Parents Anonymous.

Hypothyroidism Screening Program

The division continues to maintain a screening program for congenital hypothyroidism, in conjunction with the Division of Laboratories T_4 determinations are done on the filter paper blood specimen submitted to the Laboratory for PKU testing. A TSH determination is done on any specimen falling in the lower three percent of a particular run.

Genetics

The division partially funds a genetics program in cooperation with the Pediatrics Department of the University of North Dakota School of Medicine and the National Foundation March of Dimes. A pediatrician who is specially trained as a geneticist was successfully recruited to the state in July 1977. Genetic counseling is now provided at periodic clinics held in Minot, Bismarck and Fargo and on a regular basis in Grand Forks. It is hoped that genetic counseling services can be further expanded in the future.

Infant Stimulation Programs

The division has provided financial assistance for establishment of infant stimulation programs in Minot, Grand Forks, Fargo and Jamestown. These programs help provide early intervention for youngsters with handicapping conditions.

Child Safety Programs

Accidents are the most common cause of death in children beyond the first year of life. Automobile accidents are particularly devastating for children. The division began sponsoring "Project Childsafe" in 1977. This program promotes the use of crash tested automotive restraint systems for children up to four years of age and automotive seat belts for children older than four years of age. Pamphlets, posters, bumper stickers and new articles have been used to alert parents to the importance of adequate restraints for children in automobiles. Support for this project has been obtained from Jayceettes and other volunteer organizations. A movie short and trayliners describing the need for restraints have been developed.

Prevention of injury or death from accidental poisoning is one objective of the division's safety information program for children. Since November 1977, the division has distributed with the safety issue of the Pierre the Pelican Series, a bottle of Syrup of Ipecac (the medication used to induce vomiting) with instructions for use. Recipients of this service are all first born children and their parents. A total of 4,552 bottles of Syrup of Ipecac have been distributed since the onset of the program. In addition, the division provides funds to help maintain the four regional poison control centers within the state.

Health Education

The division is involved in a variety of health education activities. The director of the division served as moderator for eight television programs dealing with various health subjects during the winter of 1978 79. The Division of Maternal and Child Health, in cooperation with the Division of Health Education, distributes a publication called "Pierre the Pelican" which goes to parents of all firstborn children. These publications are sent out on a monthly basis and provide practical information regarding child development and basic child care suggestions.

Maternal and Child Health/Crippled Children's Services Region VIII Conference

In September 1978, the Division of Maternal and Child Health of the North Dakota State Department of Health and the Crippled Children's Services Division of the North Dakota Social Service Board hosted the annual Region VIII MCH/CCS Conference. Approximately 100 participants representing MCH and CCS programs from Colorado, Wyoming, Utah, Montana, South Dakota and North Dakota attended the three day meeting on "Adolescent Health."

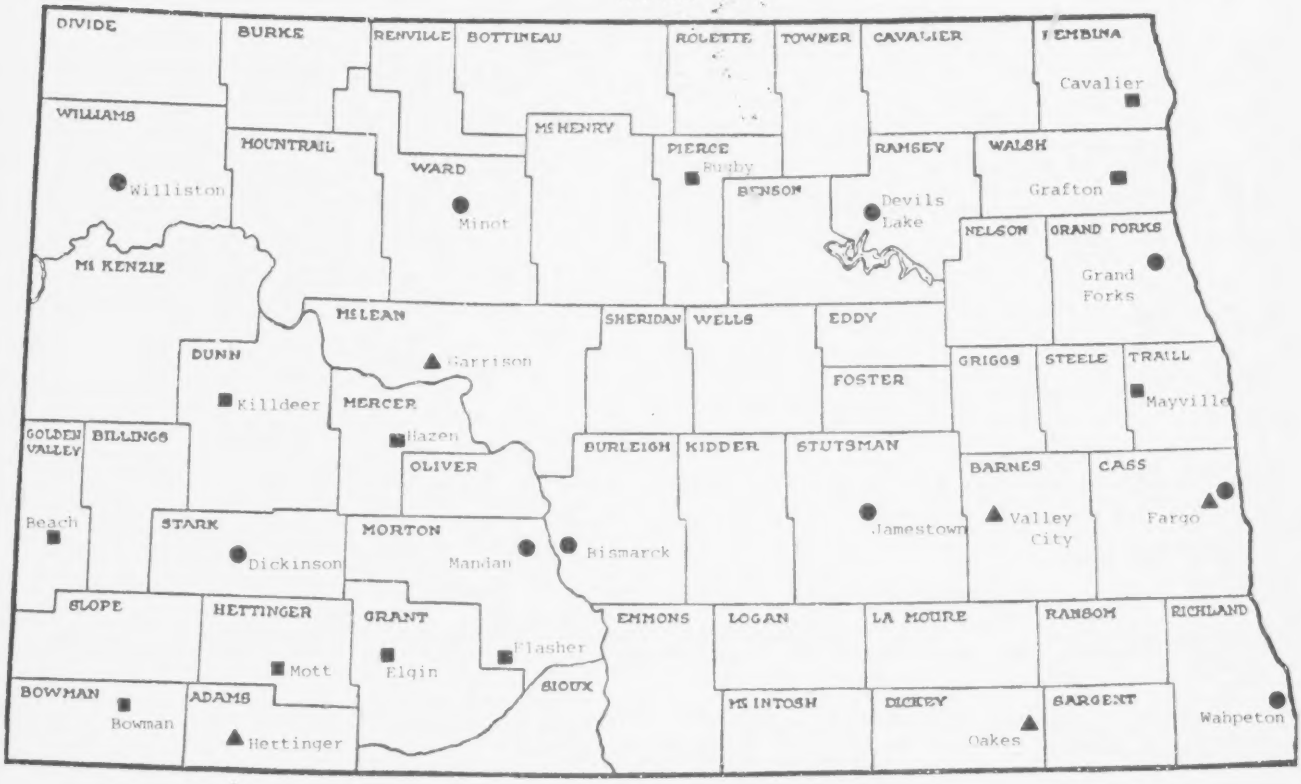
The goal of the conference was to improve the health of adolescents by increasing our awareness and understanding of, sensitivity to and communication with adolescents about their needs. It was met through presentation on adolescent suicide, nutrition, handicap sexuality, clinical services, parenting and dental health. Additionally, information on hemophilia and fetal alcohol syndrome was presented.

The conference was funded by the Department of Health, Education and Welfare through Title V of the Social Security Act.

Table 50
NUMBER AND PERCENT — DISTRIBUTION
OF ALL PATIENTS BY SELECTED CHARACTERISTICS

			SEX		AGE						RACE				
		Total Clients	Male	Female	18	18 19	20 24	25 29	30 34	35+	White	Black	Am. Indian	Other	Latin Am. Descent
7 1 77 through 6 30 78	#	7993	3	7990	524	1866	3901	1161	363	178	7729	13	146	50	55
	%	100	.1	99.9	6.6	23.3	48.8	14.5	4.6	2.2	96.7	.2	1.8	.6	.7
7 1 78 through 6 30 79	#	9969	16	9953	643	2954	4165	1354	647	206	9612	36	208	69	44
	%		.1	99.9	6.4	29.6	41.8	13.6	6.5	2.1	96.4	.4	2.1	.7	.4

Figure 7
NORTH DAKOTA FAMILY PLANNING PROGRAM
1977-1979



● Delegate Agency
▲ Satellite Clinic Site Locations
■ Outreach Service Site

PHILOSOPHY OF THE DIVISION OF COMMUNITY HEALTH NURSING

We believe:

..... in the intrinsic worth of the individual, the value of human life and the attainment of the highest standards of health possible as a fundamental right of every individual.

..... that the community health nurse contributes, as a member of the health team, to the establishment of health goals and planning for the attainment and maintenance of optimal health in our changing society.

..... that the basic constituents of community health nursing practice are health promotion, health maintenance, and disease prevention applied to families, groups within the community, and the community as a whole.

..... that each community health nurse accepts the obligation to provide quality nursing service adhering to standards of professional practice.

..... that the Division of Community Health Nursing provides consultation to promote quality community health nursing services.

..... that community health nurse's growth is enhanced through effective administrative, consultative, and supervisory services.

STATEMENT OF PURPOSE

The Division of Community Health Nursing exists to provide supervision and consultation to the community health nurses throughout North Dakota in the planning of new programs, evaluation of on going programs, and in the fostering of sound community health nursing concepts for the achievement of community health.

Objectives:

1. Develop, implement and maintain nursing consultation services for community health nurses in North Dakota.
2. Devise, implement and maintain a systematic approach to community health nursing — program and personnel planning and evaluation on a local/state level.
3. Develop, upgrade, maintain and distribute forms, records and educational material necessary for community health nursing activities.
4. Promote and initiate the development and coordination of community health nursing programs statewide.
5. Promote and initiate the development, coordination and/or utilization of Medicare certified home health agencies in North Dakota.
6. Initiate, maintain and participate in community health nursing representation on a local, state and federal level.
7. Direct community health nursing programs and activities on a statewide basis.
8. Explore, identify and utilize possible funding sources on an ongoing basis.

9. Initiate and coordinate inter/intra agency communications.
10. Maintain and upgrade knowledge and skills of nursing staff.

Local Level

The community health nurses are employed by district health units, city county health departments, city health departments and county health departments. They conduct a generalized community health nursing program in 44 of the 53 counties in the state as indicated in Figure (Map of Community Health Nurses). There are 85 local community health nurses to render services in the home, office, clinic, conference and school setting. Not included in this count are the 80 contract nurses working within the health departments in such programs as Family Planning, Early and Periodic Screening Diagnostic Treatment and Health Maintenance Conferences. Community education is an integral part of the overall program.

A new district health unit was formed in 1977. Logan County joined with Stutsman County to create Central Valley Health Unit.

Home and Office Visits

The purpose of all community health nursing visits is to promote health, prevent and/or ameliorate disease and disability, give therapeutic care as prescribed, assist with habilitative measures and provide health education.

A total of 131,054 home and office visits were provided in 1977 1979 by community health nurses to individuals and their families.

Clinic and Conference Services

The community health nurses are serving a large segment of the population through organized clinic and conference services. Those clinics and conferences serving the largest number of people are immunization clinics, child health nursing conferences, and health maintenance clinics.

There were a total of 6,038 clinics and conferences held in 1977 1979, with approximately 130,254 people attending.

Southwestern District Health Unit and Central Valley Health Units received Title III (OAA) monies to provide geriatric health maintenance clinics in their counties.

Southwestern District Health Unit received a three year grant, allowing them to employ a part time nurse in each of their counties to provide nursing conferences for persons 55 years of age and older.

Central Valley Health Unit was also awarded a three year grant to provide health maintenance services. As a demonstration project a nurse was employed to organize and implement this special program in three counties without community health nursing services which adjoin Central Valley Health Unit. The three counties included in the demonstration project are LaMoure, Dickey and McIntosh. These conferences are held on a routine basis in each of the counties which may involve blood pressure checks, height, weight, hemoglobin, blood sugar, nutrition and medication and general health counseling.

Special Health Programs

A number of local health departments elected to participate in additional health programs. Those programs are:

Certified Home Health Agencies
Homemaker Home Health Aide Program
Hypertension Program

Home Health Services

The major objective of home care is to meet the needs of individuals who are ill or incapacitated at home. Skilled nursing care and at least one other therapeutic service such as physical therapy, occupational therapy, speech therapy, or home health aide are made available to residents in the specified catchment area. These services are provided under a physician's plan of treatment.

Persons eligible for home health services under Medicare are people 65 years and over who have Medicare insurance or those persons entitled to Medicare benefits because of total disability.

In order to receive Medicare reimbursement for home health services, an agency must be certified by the Division of Health Facilities, North Dakota State Department of Health. Once certified, other sources of reimbursement for home health service may be obtained.

In 1977 there were eight certified home health agencies in North Dakota. They were:

Southwestern District Health Unit
First District Health Unit
Bismarck City
Jamestown Hospital
Grand Forks City County
Fargo Community Health
Richland County
McIntosh County Memorial Hospital

With the advent of PSRO, necessitating early discharge, interest in home health as an alternate form of health care appears to be on the upswing. In May 1977, Rolla Community Hospital, Rolette County, was awarded an HEW Home Health Grant to establish a hospital based home health agency. In January 1977, Good Samaritan Hospital in Rugby formed a hospital based home health agency, funded with Title III grant monies.

In May 1979, a new concept in home health services delivery in North Dakota was developed by Southwestern District Health Unit and St. Joseph's Hospital in Dickinson. A HEW home health grant was awarded to St. Joseph's Hospital to establish a hospital based home health agency and to demonstrate the feasibility of collaborative effort between a hospital based home health agency and a community health program in the provision of home health services to the community.

A similar arrangement was undertaken by the United Hospital in Grand Forks, North Dakota.

In June 1979, there were eleven certified home health agencies in North Dakota. Figure 10 shows the areas served by these agencies. Five of these agencies are community based while six are hopsital based agencies.

As fiscal year 1978 1979 drew to a close, three proprietary agencies were actively involved in the provision of health care. These agencies are:

Home Care Inc., Bismarck, North Dakota
Fargo Clinic, Fargo, North Dakota
Quality Care, Fargo, North Dakota

Proprietary agencies (for profit) are not eligible for federal reimbursement, i.e., Medicare, Medicaid, thus are not required to meet the conditions of participation as set forth by the Social Security Act.

In April 1979, licensure of all home health agencies was proposed. With the adoption of licensure all agencies whether private nonprofit, or for profit agencies would be subject to certificate of need and licensure. This licensure will enable all agencies to be certified and receive federal reimbursement.

Homemaker Home Health Aide

The Homemaker Home Health Aide Program is a joint effort between state and local health departments and Social Services. Various home based services are provided through this Title XX program including homemakers, chore services, and home health aides.

A homemaker home health aide is employed by the local Social Services agency and provides direct service to clients under the supervision of the local community health nurse. Examples of services that may be performed by the homemaker home health aide are range of motion, vital signs, assistance with ambulation and personal hygiene.

The Division of Community Health Nursing provides training sessions for homemaker home health aides. These week long sessions are held two to four times per year, depending on need. Since 1972, 147 homemaker home health aides have been trained in 17 sessions. Figure 9 shows the 35 counties where homemaker home health aide services are available.

Most of the clients served by this program have a chronic illness and/or are elderly. In fiscal year 1977 1978, 675 clients received the service and in fiscal year 1978 1979, approximately 700 clients received the service.

Hypertension Program

This program was made possible through a special grant of 314(d) (7) (B) funds. The funds were authorized for screening, referral and follow up with the emphasis on follow up.

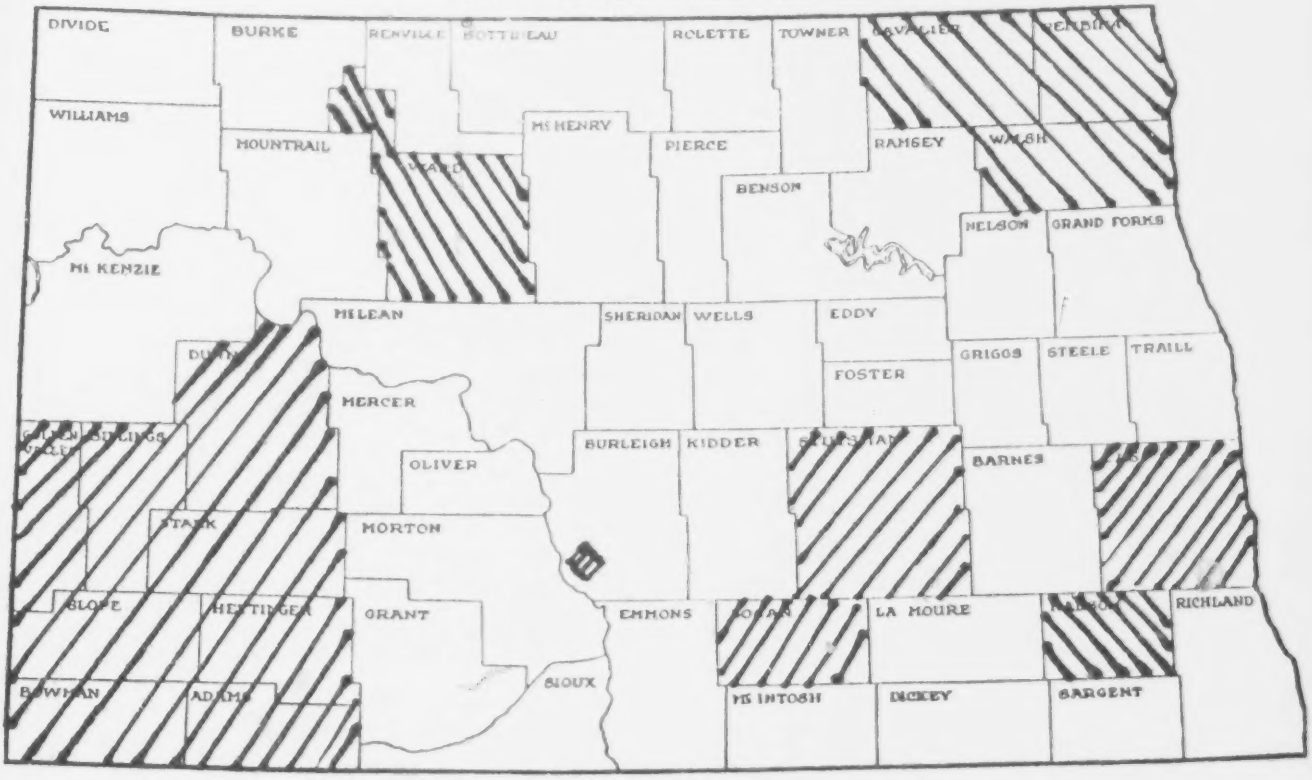
The target population for 1978 1979 program was those individuals between the ages of 21 55 years. Because this age group receives the least amount of public health services and are at risk for hypertension, a concerted effort was made to bring them into the health care system. Those health departments participating in the hypertension program were:

Central Valley Health Unit
Bismarck City
First District Health Unit
Southwestern District Health Unit
Pembina County
Walsh County
Ransom County
Cavalier County (Lake Region District Health Unit)

The Division of Community Health Nursing coordinated the hypertension program. Forms, printed materials and onsite consultative services were provided. Figure 8 reflects the number of persons screened by age and sex breakdown. A total of 31,462 were screened, 6,524 rescreened, and 1,411 were referred to their physician for treatment.

Educational programs were also held for professional and lay people. Two hundred fifty three programs were held with 5,671 people attending. This program was well received by the public and providers and will be continued when the funds are depleted.

Figure 8
1979 HYPTERTENSION MONIES (314d)



Central Valley Health Unit

Fargo Community Health Unit

Pembina County

Walsh County
Bismarck City
First District Health Unit
(Ward County only)

Southwest District
Ransom County
Lake Region District
(Cavalier County only)

Figure 9
HOMEMAKER HOME AIDE SERVICES IN NORTH DAKOTA
May 1977

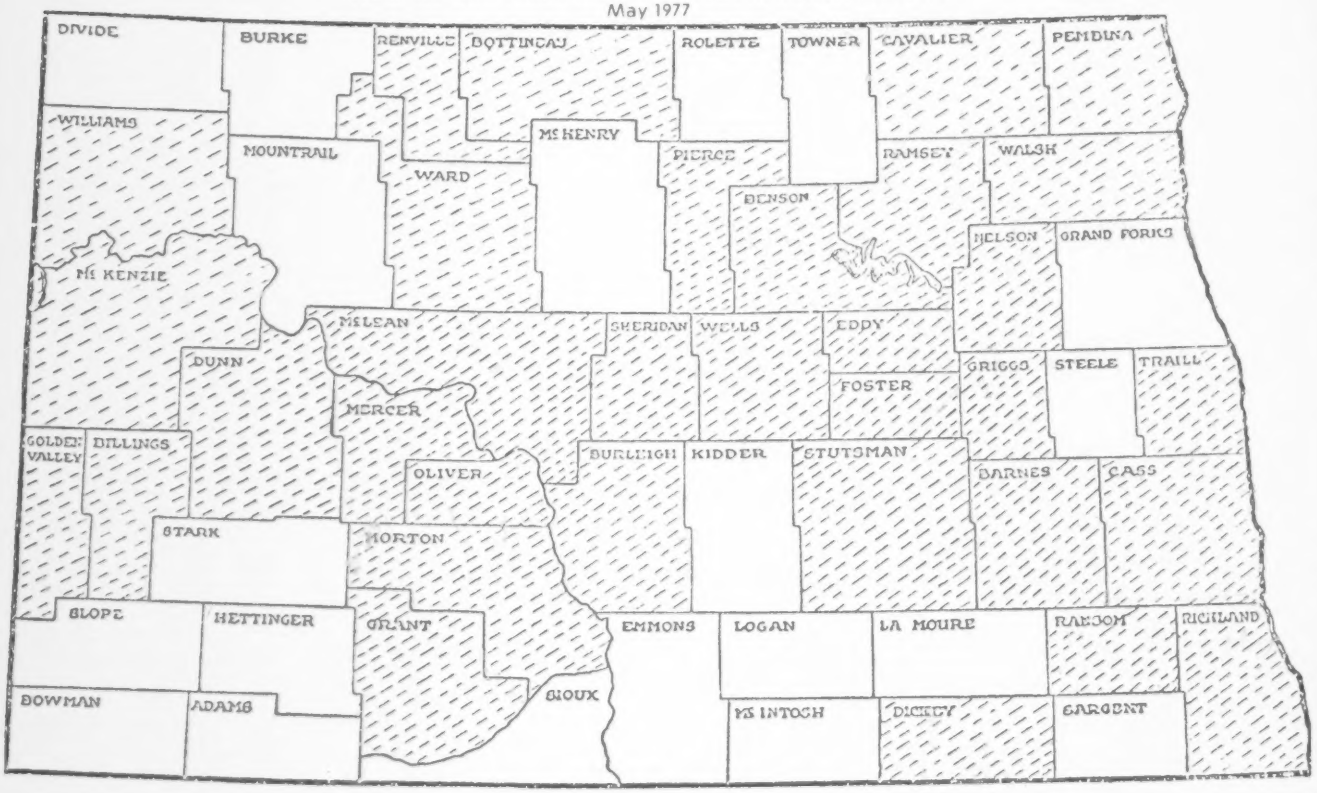
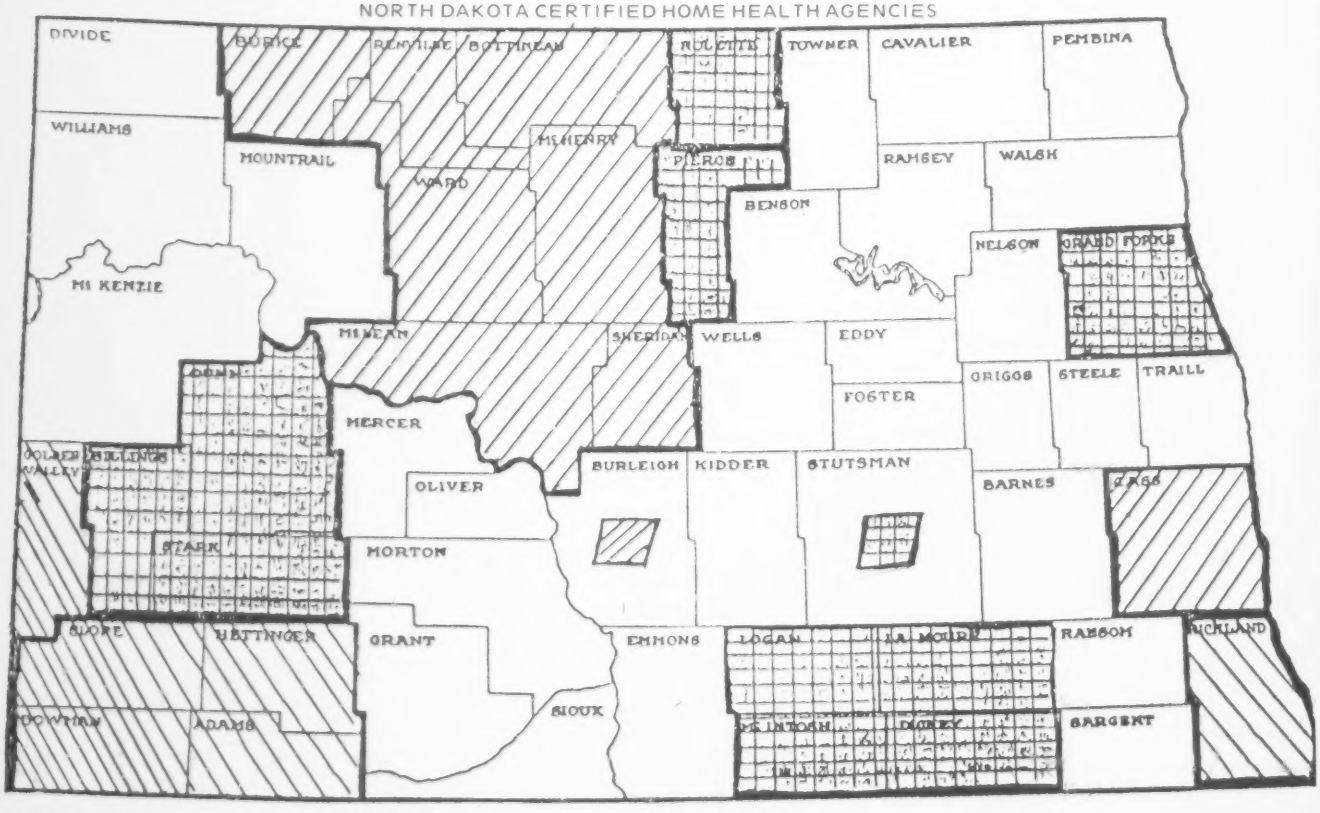


Figure 10
NORTH DAKOTA CERTIFIED HOME HEALTH AGENCIES



HEALTH CARE ADMINISTRATION SERVICES

DIVISION OF EMERGENCY HEALTH SERVICES

DIVISION OF HEALTH FACILITIES

DIVISION OF EMERGENCY HEALTH SERVICES

With funding made available from the Old West Regional Commission, and in cooperation with the University of North Dakota Medical School, an Emergency Care Nurse Practitioner Program was initiated. Existing R.N.'s are given 12 months of nurse practitioner training through the Family Nurse Practitioner Program with specialized courses in emergency care. The intent of the program is to enhance care in the emergency rooms of small town hospitals.

During the biennium, data relative to motorcycle crashes was collected to determine the effect of helmets on the mortality and the morbidity rates due to head injury. Results indicate that helmets do save lives and reduce permanent impairment.

The subregional poison system was completed during the past two years. Each of the four Emergency Medical Services Regions now has a subregional poison center in a major hospital of the area. Each center is linked to the Rocky Mountain Poison Center in Denver for training, treatment, and consultation purposes.

The remote cardiac monitoring project in southwestern North Dakota became operational. St. Alexius Hospital in Bismarck acts as the central monitoring unit for four outlying smaller hospitals. Cardiac patients in these hospitals are monitored 24 hours per day by trained staff at St. Alexius Hospital. Consultation or treatment protocols may be offered by the central unit.

Although Basic Life Support (BLS) continued to provide the major opportunity for staff involvement in training programs, the division was instrumental in providing both faculty and equipment at the five sites offering Advanced Cardiac Life Support (ACLS) during the biennium. A total of 100 medical personnel (60 physicians and 40 Emergency Room or CCU/ICU nurses) were graduated from the 16 hour ACLS course.

Program activities in the BLS area are much the same as previous periods, with any increased emphasis being placed on cardiopulmonary resuscitation (CPR) and practical testing within the Emergency Medical Technician (EMT) curriculum. American Heart Association (AHA) standards for CPR have been adopted as a prerequisite to graduation as an EMT in the State. This level of competency is also the accepted norm for the National Registry of EMT's. The CPR for the lay public other than the EMT was also increased during the biennium at the Basic Rescuer level and at the Instructor's level. (See Phase III Training.)

During the biennium, a great deal of credibility was added to the State's EMT program, when a practical examination, developed and administered by the division, was inserted into the EMT curriculum. This is the first opportunity the graduating EMT in North Dakota has had to prove his/her competency by being provided by a psychomotor skill exam with standardization and substance. Programatically, the EMT in North Dakota has always been offered a quality course, but the proof of abilities in practical application had left a lot to be desired. The concept of such an exam has always had merit, but the increase in staff during the period allowed, for the first time, an opportunity for instigation of such an effort.

The great majority of opinions on the worth of the exam from those tested during the period (some 500) were very positive. Some 18% of those tested failed to be proficient in the skills areas of the exam. This rate appears to be consistent with the data gathered by the National Registry during the period. All datum from the exams this biennium have been filed, to be utilized in a future evaluation program which will in the future be stored on magnetic tape for subsequent retrieval and analysis.

Extrication Equipment: (Training)

There were four sets of extrication equipment funded by Department of Transportation (DOT), purchased at a cost of $14,400.00. A set will be stored in each of the four EMS Regions of the State, and are available to the thirteen certified extrication instructors.

Extrication Equipment: (Rescue Services)

There were 16 newly organized rescue services each receiving DOT funding to purchase $5,000.00 worth of extrication equipment plus a mobile two way radio at a cost of $1,200.00.

Quick Response Units:

In an effort to reduce response time to illness and accident emergencies, a program was implemented to train and equip Quick Response Units (QRU) in communities which could not support an ambulance service. Highway Safety funds will be utilized to purchase each unit $1,100.00 worth of first aid supplies and equipment. Six such units have been approved to date. Quick Response Unit personnel shall receive a minimum of 16 hours of first aid training.

Ambulance Licensing:

As of June 30, 1979, there are 119 licensed ambulance services. New licensing requirements by regulations have been approved by the State Health Council and it is anticipated that the Council will adopt same in near future. Inspections of ambulance services for licensing requirements are being continued, and it appears that most services are in compliance without any difficulty.

Evaluation:

Numerous ambulance trip tickets include information which creates a need to correspond with ambulance personnel and with hospitals. In most cases, it involves care to the patient during transportation to the hospital. This critique is done to reveal needs of training and contributes to improved care to the patient. There are instances when the hospital is questioned about their interpretations of questions on the trip tickets. The hospitals have been cooperative in providing information on the performance of ambulance personnel.

During the past year, the division was approached by the Law Enforcement Council and asked to participate in the Receiving Health Screening by Jail Personnel Program.

The purpose of the course is to provide the training necessary for nonmedical personnel to perform adequate health screening and to establish basic screening forms and procedures. Completion of the course will give detention officers the knowledge to perform a very basic health examination and complete a screening form. The reasoning behind this is that it is absolutely necessary that the officers in charge of the booking procedures have some means of accepting or rejecting persons who may require medical attention prior to them becoming the responsibility of the facility.

Upon completion of the two-day course, the following areas are accomplished:

1. Understand the need for receiving health screening.
2. Familiarization with the principles for performing screening.
3. Understand how to use receiving forms.
4. Perform a general physical assessment.
5. Perform basic diagnostic tests.
6. Using above data, make appropriate decisions concerning the need for medical clearance, detoxification, or special housing needs.

To date, 34 individuals have participated in and completed the course.

Emergency Medical Services System Impact

Below is a table representing the effect that all components of the Emergency Medical Services Systems have upon the citizens of North Dakota both in the form of the number of persons affected by clinical components and the economic impact upon the State.

SYTEM IMPACT ESTIMATE
January 1, 1978 through December 31, 1978

Clinical Category	Cases	Life Saved	Disability Reduced	Hospital Stay Reduced
Poison	57	4	4	4
Spinal	10	0	1	1
Burn	23	0	4	4
Psychiatric	25	2	1	1
Drug/Alcohol	270	16	24	27
Trauma	2,323	126	308	357
Cardiac	618	54	52	54
High Risk Mother	7	0	0	0
High Risk Infant	8	0	0	0
All Other Medical	5,869	304	565	597
TOTAL		506	959	1,045

The above impact estimates represent approximately $56,309,225.00 savings in economic loss to the citizens of North Dakota. The figure was derived from the following methods and sources:

1. 506 lives saved @ $97,000 (National Safety Council)	$49,082,000
2. 959 injured reduced @ $7,400 (National Safety Council)	7,096,600
3. 1,045 hospital days reduced @ $125 per day	130,625
TOTAL:	$56,309,225

PROGRAM ACTIVITIES

Training and Ambulance Purchase Program

PHASE I TRAINING — I A — Red Cross First Aid; I B — Ambulance Equipment Familiarization; I C — Automobile Accident Simulation

	PHASES I A	I B	I C
Total trained Fiscal Year 1978	16	67	180
Total trained Fiscal Year 1979	78	59	109
Total trained to date	1,464	1,641	2,598*

*Includes 1,038 students in Emergency Care Technician classes.

PHASE II TRAINING — 98 hour Training Course

Emergency Care Technician — II A (North Dakota)

II-B — ECT Recertification	PHASES II A	II B	EMT
Total registered Fiscal Year 1978	555	88	
Total registered Fiscal Year 1979	551	471	
Total registered to date	4,219	1,277	
Emergency Medical Technician (National)			
Total registered Fiscal Year 1978			291
Total registered Fiscal Year 1979			391
Total registered to date			2,914

PHASE III TRAINING — III A Red Cross Instructor's Classes; III B — Simulated Injuries Workshops; III C — Heavy Extrication Workshops; III D — Cardiopulmonary Basic Rescuer Classes; III E — Cardiopulmonary Instructors' Classes; III F — Extrication Instructors' Schools; III G — Advanced Life Support Classes; III H — Receiving Health Screening by Jail Personnel.

	PHASES III A	III B	III C	III D	III E	III F	III G	III H
Total FY '78	0	0	66	254	41	0	40	0
Total FY '79	10	61	151	285	86	13	40	79
Total to date	247	139	679	784	278	13	80	79

ON-THE JOB TRAINING — For Ambulance Personnel Who Spend 45 Hours with Fargo Moorhead Ambulance Service.

Total participating Fiscal Year 1978	71
Total participating Fiscal Year 1979	69
Total participating to date	537

AMBULANCE PURCHASE PROGRAM

Total vehicles received Fiscal Year 1978	4
Total vehicles received Fiscal Year 1979	16
Total vehicles to date	113

*Includes 77 Department of Transportation vehicles
16 Health, Education and Welfare vehicles
8 Health, Education and Welfare replacement vehicles
12 Department of Transportation replacement vehicles

DIVISION OF HEALTH FACILITIES

The Division of Health Facilities, in carrying out the statutory and contractual responsibilities of the department, as reported below, strives to assure that buildings, equipment, and staff in health care facilities meet applicable standards and that good health care is provided.

The responsibilities of the Division of Health Facilities include:

1. Licensing of:
   a. General and special hospitals;
   b. Nursing homes;
   c. Intermediate care facilities;
   d. Addiction hospitals and related facilities in cooperation with the Division of Alcoholism and Drug Abuse;
   e. Electrologists and electronic hair removal technicians; and
   f. Nursing home administrators through serving as executive secretary for the Board of Examiners for Nursing Home Administrators.
2. Inspect, to determine eligibility for state licensure or Medicare (1) and Medicaid (2) certification, the following:
   (1) As provided for in the contract with the Health Care Financing Administration of the Department of Health, Education, and Welfare.
   (2) As provided for in the agreement with the North Dakota Social Services Board.
   a. Hospitals;
   b. Nursing homes;
   c. Intermediate care facilities;
   d. Home health agencies;
   e. Independent clinical laboratories;
   f. Speech pathology clinics;
   g. Physical therapy services; and
   h. Renal dialysis facilities.
3. Consultation to:
   a. All licensed and certified health care facilities and services.
   b. The State Health Planning and Development Agency (SHPDA) concerning the State's certificate of need law and the Federal capital expenditures law (Section 1122 of Public Law 92-603). Administration of these laws was transferred from this division to SHPDA on July 1, 1978. The report concerning these programs can be found in the SHPDA report.
4. Other responsibilities:
   a. The Federal grant and loan program for construction of health care facilities (Hill-Burton Program) has not been funded since fiscal year 1974. All construction under this program was completed during the biennium. However, monitoring of the uncompensated care and the community service obligations of facilities assisted by the program continue to be an ongoing responsibility of the division.

   b. Responsibility for development of home health agencies was transferred from the Division of Nursing to this division in March 1979. The two divisions cooperated in the orderly transfer. Since the Division of Nursing was responsible for this program for approximately five-sixths of the biennium, the home health agency information is contained in the Division of Nursing report.

   c. The review of architectural plans and specifications for remodeling and construction of health care facilities, in cooperation with the Division of Environmental Engineering, relates to the division's responsibilities for licensure of health care facilities.
5. Summary of activities:
   a. INPATIENT FACILITY INVENTORY

		Biennium Summary (July 1, 1977 to June 30, 1979) July 1, 1977	to June 30, 1979	Increase/Decrease
SNF*	Facilities	56	56	0
	Beds	4050	4123	73
ICF**	Facilities	30	34	4
	Beds	1862	2074	212
Hospital	Facilities	52	52	0
	Beds	3920	3925	5
S.H.***	Facilities	4	4	0
	Beds	1051	1058	7

*Nursing Home
**Intermediate Care Facilities
***Specialized Hospitals

Note: The four specialized hospitals are: State Hospital and Crippled Children's Hospital School, Jamestown; Medical Center Rehabilitation Hospital, Grand Forks; and Heartview, Mandan.

b. Conducted state licensing and Medicare/Medicaid inspections as follows:

Type of Facility or Service	Number of Inspections	Number of Follow Ups
General Hospitals	140	90
Nursing Homes	107	105
Intermediate Care Facilities	75	67
Independent Clinical Labs	26	18
Home Health Agencies	20	7
Kidney Dialysis Units	9	5
Speech Pathology Service	2	1
Physical Therapy Service	2	2

c. Contracted with the State Fire Marshal for fire safety inspections of inpatient health care facilities. The Fire Marshal conducted 280 inspections of health care facilities.

d. Reviewed, in cooperation with the Division of Environmental Engineering, 32 final architectural plans and specifications for construction or remodeling of inpatient health care facilities.

e. Received, investigated, and resolved 46 complaints against health care facilities.

f. Met regularly (monthly) with representatives of the Social Service Board to discuss and coordinate administration of the Medicaid program as it relates to inpatient facilities.

g. Met with community and health care facility representatives on 143 occasions to discuss licensing and certification difficulties. Innumerable phone calls on this subject were also initiated or received.

h. Established communication with, and cooperated with, the State Office of Energy Management and Conservation in relation to its energy conservation program in health care facilities.

i. Participated in promotional, educational, and training activities; and attended local, regional, and national meetings in an effort to keep personnel abreast of current national trends and new legislation to enhance their capabilities in consulting with health care facilities as follows:

(1) Regional and national meetings of the Public Health Service, Social Security Administration, North Dakota Hospital Association, North Dakota Nurses Association, North Dakota League of Nursing, North Dakota Tuberculosis Association, North Dakota Health Care Association, North Dakota Heart Association, North Dakota Public Health Association, North Dakota Medical Record Association, Blue Cross of North Dakota, State Board of Nursing, State Social Services Board, State Medical Association, National Association of Medical Record Librarians meetings and workshops, and three-week university based training course for Medicare surveyors.

(2) Cosponsored two workshops for nursing home activity workers.

(3) Several staff members attended two regional meetings of the Department of Health, Education, and Welfare on Certification of Facilities for Medicare, the Upper Midwest Hospital Conference, two national meetings with state licensing and certification directors.

(4) Provided instructors for the nursing home administrators' training courses (four) sponsored by the University of North Dakota.

(5) Conducted surplus commodity surveys in long term care facilities for the Department of Public Instruction.

(6) Conducted methadone surveys in hospitals for the Federal licensing program.

(7) Monitored the Department of Health, Education, and Welfare proficiency test for laboratory technicians and nurse applicants.

(8) Certified eligible chiropractors for participation in the Medicare program.

j. Attended numerous meetings with the State Health Council, State Health Coordinating Council, health systems agencies, Legislative Council committee meetings, and meetings with other agencies of state government in an effort to further quality of care and cost containment in the health care field.

k. Developed, in cooperation with the State Health Officer and other Health Department divisions, proposed regulations or regulation changes for: ambulance service, home health agencies, electrolysis, and certificate of need.

l. Drafted several legislative bills for the 1979 legislative session in support of the State Health Officer and other divisions of the Department. Worked closely with other divisions on legal matters and legislative and regulatory proposals.

m. Special events:

(1) Department was subjected to two comprehensive reviews of Medicare and Medicaid survey activities by the Federal agencies.

(2) Planned, organized and conducted one four day surveyor training conference for all health facility surveyors in the Department of Health, Education, and Welfare Region VIII (Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming.)

ENVIRONMENTAL HEALTH AND ENGINEERING SERVICES

DIVISION OF ENVIRONMENTAL ENGINEERING

DIVISION OF ENVIRONMENTAL SANITATION AND FOOD PROTECTION

DIVISION OF SOLID WASTE MANAGEMENT

DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

DIVISION OF ENVIRONMENTAL ENGINEERING

This division is responsible for air pollution control, radiation control, institutional environmental programs, occupational health, noise control, related research and special studies. In addition to these specific program areas, division staff also provided technical assistance to other State and local governmental agencies in resolving problems related to the environment.

Air Pollution Control

In general, the environmental air of North Dakota can be described as relatively clean. There are, however, areas of the State where the effects of air pollution have been found and where the air was of undesirable quality. During this past biennium, emphasis has been directed to assessing the real and potential air pollution sources in the State, investigating complaints of air pollution, and implementing a permit system. As in the past, the primary goal of the Air Pollution Control Program is to correct existing pollution problems and in the long range, to prevent the development of potential problems.

The statutory authority for the Air Pollution Control Program activities is found in Chapter 23-25 of the North Dakota Century Code. This law was extensively revised and updated in the 1975 session of the Legislature. There were no amendments to Chapter 23-25 in the 1977 session of the Legislature. There were minor revisions in the 1979 session of the Legislature in the areas of source registration and permit fees.

The Air Pollution Control Regulations of the State of North Dakota were first promulgated under Chapter 23-25 of the North Dakota Century Code with an effective date of July 1, 1969. As a result of the 1970 amendments to the Federal Clean Air Act, the Regulations were extensively revised and updated during the 1971-1973 biennium with the effective date of the revisions being February 1, 1972. During the 1973-1975 biennium, one revision was made to the Regulations to provide for a 30-day public comment period on all permit to construct application reviews. This revision, which became effective on December 15, 1973, was the result of revisions to U.S. Environmental Protection Agency regulations concerning public involvement in decision-making processes.

Major revisions were proposed to the State Implementation Plan and to the Air Pollution Control Regulations of the State of North Dakota during the 1975-1977 biennium. A public hearing was conducted on November 17, 1975, to receive and consider testimony and evidence bearing on the proposed revisions. The proposed revisions provided new regulations and procedures equivalent to Federal standards and regulations for Standards of Performance for New Stationary Sources, (NSPS); National Emission Standards for Hazardous Air Pollutants, (NESHAPS) and Prevention of Significant Deterioration of Air Quality, (PSD).

The revisions also provided adequate authority for the department to implement and enforce the Federal NSPS, NESHAPS and PSD programs and to be delegated the authority to do so by the U.S. Environmental Protection Agency. In addition, major revisions were proposed to the permit to construct and the permit to operate regulations so as to be compatible with Federal regulations and requirements for NSPS, NESHAPS, and PSD, as well as amendments to Chapter 23-25 of the North Dakota Century Code, passed by the 1975 State Legislature. A new regulation entitled Designed Air Contaminant Sources, Permit to Construct, Permit to Operate was proposed to replace the existing portion of the Air Pollution Control Regulations of the State of North Dakota. The revisions to the State Implementation Plan and to the Air Pollution Control Regulations were submitted to the State Health Council on January 6, 1976, for review and adoption. These revisions were subsequently adopted by the State Health Council and became effective on February 9, 1976.

The 1970 amendments to the Federal Clean Air Act also provided that each state adopt and submit a plan providing for the implementation, maintenance, and enforcement of National Ambient Air Quality Standards within each air quality control region within the State. North Dakota is divided into two air quality control regions. These regions are the Metropolitan Fargo-Moorhead Interstate Air Quality Control Region which includes Cass County in North Dakota and Clay County in Minnesota, and the North Dakota Intrastate Air Quality Control Region which consists of the remaining 52 counties in North Dakota. These regions were classified by the Administrator of the U.S. Environmental Protection Agency, after consultation with the Department. The Implementation Plan includes consideration of legal authority, control strategy, compliance schedules, prevention of air pollution emergency episodes, air quality surveillance, review of new sources and modifications, source surveillance, resources, intergovernmental cooperation, and the Air Pollution Control Regulations of the State of North Dakota. The Implementation Plan was initially adopted on January 24, 1972. This plan was revised during the 1971-1973 biennium to include the revisions to the Air Pollution Control Regulations of February 1, 1972 and to include compliance schedules for 24 major air pollution sources in the State. These revisions to the plan were approved on June 1, 1973.

During the 1973-1975 biennium, the plan was revised two times. The first revision to the plan included the regulation change to provide for a thirty-day public comment period on all permit to construct application reviews. This revision was approved by the department on January 15, 1974. The second revision to the plan concerned the designation of "air quality maintenance areas" in the State in compliance with U.S. Environmental Protection Agency regulations. The Federal regulations require that the State Implementation Plan identify those areas in the State which, due to current air quality and/or projected growth rate, or potential natural resource development, may have the potential for exceeding any of the National Ambient Air Quality Standards within the 10-year period between 1975 and 1985. The department identified and proposed two areas in the State for designation as air quality maintenance areas. Cass County, the only standard metropolitan statistical area in the State, was proposed for designation for total suspended particulate matter due to current air quality and projected growth rate. McLean, Mercer, and Oliver counties were also proposed for designation for total suspended particulate matter, sulfur dioxide, photochemical oxidants, and nitrogen dioxide. These three western counties are slated for large scale lignite coal development in mining, electrical power generation, and coal gasification. After a public hearing held on May 22, 1974, the revisions to the plan concerning the proposed designations were approved by the department on June 5, 1974 and submitted to the U.S. Environmental Protection Agency. The designations were approved by the U.S. Environmental Protection Agency on June 2, 1975.

During the 1975-1977 biennium, the State Implementation Plan was revised two times. The first revision to the plan concerned an amendment to Conditional Permit to Operate and Compliance Schedule No. 73005 issued to the Basin Electric Power Cooperative, William J. Neal Station, McHenry County, North Dakota. The revision changed the final compliance date for this power plant from November 1, 1975 to December 31, 1978, to allow for installation of an electrostatic precipitator on that facility. After a public hearing held on November 30, 1976, the revision to the Plan concerning the change in the final compliance date was approved by the department on December 31, 1976, and submitted for approval to the U.S. Environmental Protection Agency. The revision was approved by the U.S. Environmental Protection Agency with an effective date of December 13, 1976. The second revision to the Plan concerned amendments to the permits to operate for the American Crystal sugar beet processing plant at Drayton; the Minnkota Power Cooperative Milton R. Young Unit #1 electrical power generating plant at Center; the United Power Association electrical power generating plant at Stanton; the Basin Electric Power Cooperative Leland Olds and W.J. Neal electrical power generating plants at Stanton and Velva, respectively; the Montana Dakota Utilities R.M. Heskett electrical power generating plant at Mandan; and an order to the Amoco Oil Company Refinery at Mandan. The proposed amendments and Order required these sources to install, calibrate and maintain continuous opacity monitoring instruments as required by Federal regulations. After a public hearing held on April 25, 1977, the revision to the Plan was submitted to and approved by the U.S. Environmental Protection Agency.

Major revisions were proposed to the State Implementation Plan and to the Air Pollution Control Regulations of the State of North Dakota during the 1977 1979 biennium. A public hearing was conducted on May 22, 1978, to receive and consider testimony and evidence bearing on the proposed revisions. The proposed revisions incorporated the Federal Clean Air Act Amendments (CAAA) of 1977 into the Regulations, in addition to providing new regulations for Standards of Performance for New Stationary Sources, (NSPS); National Emission Standards for Hazardous Air Pollutants, (NESHAPS); and Prevention of Significant Deterioration of Air Quality, (PSD). In addition to several administrative revisions, the revisions also included regulations governing fugitive emissions and odors. The regulations became effective on July 1, 1978. Copies of the regulations were sent to EPA as part of a SIP revision. The department is awaiting approval by EPA of the revision.

During the 1977 1979 biennium, administrative orders were issued by the North Dakota State Department of Health to two existing sources. The orders required the affected companies to bring air emissions from their facilities into compliance with certain regulations contained in the federally approved State Implementation Plan (SIP). Because the orders were issued to major sources and permitted a delay in compliance with revisions of the SIP, the orders must be approved by EPA before they become effective as delayed compliance orders under the Clean Air Act. Once approved, the orders constitute additions to the SIP.

The first order was issued by the department to U.S. Noonlite, Ltd. on November 27, 1978. The order requires the facility to bring its rotary kiln into full compliance with the Air Pollution Control Regulations of the State of North Dakota by June 30, 1979. The department is awaiting approval by EPA of the order before it becomes effective as a delayed compliance order under Section 113 (d) of the Clean Air Act.

The other order was issued by the department to American Crystal Sugar Company concerning their sugar beet processing plant at Drayton, North Dakota on June 15, 1979. The order requires the facility to bring its main boiler into full compliance with all applicable regulations by September 20, 1979. The department is awaiting approval by EPA of the order before it becomes effective as delayed compliance order under Section 113 (d) of the Clean Air Act.

One of the major program undertakings during this report period was the continued development and implementation of the permit to construct and operate system, as provided for in the Air Pollution Control Regulations of the State of North Dakota. This system provides for the review of existing and new facilities in the State for compliance with the regulations. Following the review of information supplied by these various facilities, permits to construct and/or operate are issued. In those instances where an existing facility is not in compliance with the Air Pollution Control Regulations, a permit to operate with conditions is issued which sets forth specific conditions and schedules for timely compliance with the regulations. During this biennium, 42 permits to construct were issued and 101 permits to operate were issued. Evaluation of the permit system during the biennium has shown it to be an effective tool in the evaluation of existing as well as new facilities in the State.

Of the 172 permits to open burn during this biennium, 153 were for the disposal of hydrocarbon waste resulting from oil and gas production operations in the State. These permits allowed for the disposal of hydrocarbon wastes and other unrecoverable production materials, including that material resulting from oil spills. The responsiblity for issuing permits to open burn in response to requests by private citizens and the responsiblity for issuing permits to open burn for the cleanup of municipal landfill sites were transferred to the Division of Solid Waste Management. Due to the amount of acreage involved in "fire ecology projects", ten permits were also evaluated and issued to Federal and State Game, Wildlife, Grassland, and Wetland Management Districts.

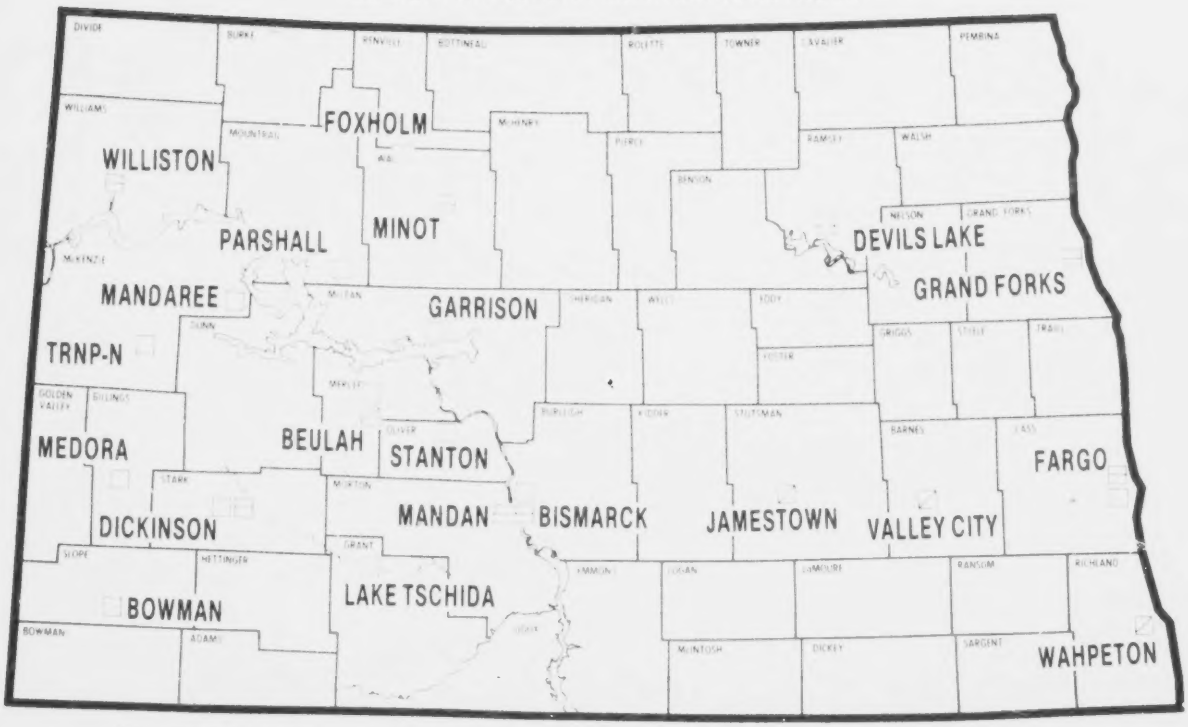
Air Pollution Control Activities

Permit Application Review Activities			Compliance Activities		
Permits to Construct	Permits to Operate	Open Burning	Inspections	Consult/ Abatement Orders Issued	Notices of Violation Issued
42	101	172	292	6	14

During the biennium, 292 inspections were performed at various facilities and operations across the State. Most of the inspection activity in this biennium was concentrated on incinerators, asphalt concrete plants, power plants, grain elevators, Federal facilities, and complaint evaluations. The inspection activities resulted in the issuance of 14 notices of violation and six consent/abatement orders. Due to the corrective actions taken or underway during this report period, it was not necessary to exercise any further administrative or judicial procedures against most of the noncomplying facilities. A penalty of $3,000.00 was assessed against a company for operating its asphalt concrete plant in violation of the Air Pollution Control Regulations of the State of North Dakota. The air pollution program experienced excellent cooperation from those facilities receiving compliance notices and orders from the Department in this biennium.

The division operates an ambient air quality network consisting of 25 stations located across the State. The location of the stations and the parameters measured are summarized in the following map and tables:

Figure 11
NORTH DAKOTA STATE DEPARTMENT OF HEALTH
AMBIENT AIR QUALITY MONITORING NETWORK



Commercial urban
residental locations
rural locations

Table 51
NORTH DAKOTA STATE DEPARTMENT OF HEALTH
AIR QUALITY MONITORING LOCATIONS

SITE LOCATION	PARAMETER LEVEL	DATE SITE ESTABLISHED	TYPE OF SITE
Beulah	II	April 1974	Residential
Beulah	II	July 1974	Rural
Bismarck	II	January 1958	Commercial
Bismarck	II	December 1976	Rural
Bowman	III	September 1974	Rural
Devils Lake	III	January 1970	Commercial
Dickinson	III	January 1970	Commercial
Dickinson	II	December 1975	Rural
Fargo	II	January 1964	Commercial
Fargo	III	February 1971	Rural
Garrison	II	September 1974	Rural
Grand Forks	III	January 1970	Commercial
Jamestown	III	January 1972	Residential
Lake Tschida	II	September 1976	Rural
Mandan	II	October 1970	Commercial
Mandaree	III	August 1976	Rural
Medora	II	September 1974	Rural
Minot	III	April 1967	Commercial
Parshall	III	September 1974	Rural
Stanton	I	September 1974	Rural
Foxholm	III	January 1958	Rural
Valley City	III	January 1972	Residential
Wahpeton	III	October 1970	Residential
Williston	III	May 1970	Commercial
TRNP N	II	December 1978	Rural

PARAMETERS MEASURED AT LEVEL I, LEVEL II, AND LEVEL III SITES

PARAMETER BY LEVEL	LEVEL III	LEVEL II	LEVEL I
a) High volume sampling of total suspended particulates — on a six day schedule 1/ 2/	X	X	X
b) Sulfur dioxide and nitrogen dioxide bubbler samplers on a six day schedule		X	X
c) Sulfur dioxide and oxides of nitrogen — continuously			X
d) Photochemical oxidants — continuously			X
e) Surface meterology of wind speed, wind direction and temperature			X

1/ High volume filter analysis includes measurements for total suspended particulates, suspended sulfates and suspended nitrates.

2/ Quarterly lead composites for 1978 have been performed for Bismarck rural, Bismarck commercial, Fargo rural, Fargo commercial, Grand Forks, Minot, and Foxholm.

The air monitoring network is operated by both volunteer and paid operators. Division employees operate the Bismarck-Mandan sites as well as all continuous monitoring sites. The collected samples are sent to the Division of Laboratories for analysis.

During this biennium, there were numerous requests, both for information and for people to speak before various civic and other interested groups across the State. Within the limitations of staff time, every effort was made to provide a program of information to the public. Approximately 20 formal talks were given by program staff members at various group meetings across the State. In addition, the Air Pollution Control Program distributed approximately 170 copies of the Air Pollution Control Regulations.

Radiation Control

The goal of the radiation control program is to permit the development and utilization of sources of ionizing and nonionizing radiation, consistent with the health and safety of the public and protection of the health and safety of the radiation user. The same radiations which perform useful and needed functions in our State can cause radiation damage if not properly handled, operated, or otherwise used.

The statutory authority for the activities of the radiation control program are found in Section 23-20-02 through Section 23-20-06 of Chapter 23-20 and Section 23-20.1-01 through Section 23-20.1-11 of Chapter 23-20.1 of the North Dakota Century Code, Article 33-10, the Radiological Health Regulations, have been promulgated under these laws.

The registration of X-ray machines continues on a three-year renewal basis with approximately one-third of the registrations renewed one year. Of the 529 facilities registered, 488 relate to the healing arts. It is estimated that the X-ray machines in these facilities each year perform approximately 2,000,000 radiographic patient exposures, 110,000 fluoroscopic patient examinations, and 12,000 X-ray therapy treatments. These procedures are performed by approximately 1,000 people, who are occupationally exposed to X-ray radiation.

At the conclusion of this report period, 98 radioactive material licenses were in effect. In accordance with the agreement between the U.S. Nuclear Regulatory Commission and the State of North Dakota, the radiation control program licenses radioactive material users and inspects the licensees at established intervals. An inspection priority system has been incorporated into this program and is illustrated in the following table:

North Dakota Inspection Priority System

INSPECTION PRIORITY SYSTEM NUMBER	TYPE OF LICENSE	INSPECTION INTERVAL
1	Industrial Radiographers	6 month
2	Operations Involving Radioactive Waste Disposal	12 month
3	Broad Licenses (Industrial, Medical, Academic)	12 month
4	Other Specific Licenses (Industrial, Medical, Academic)	24 month
5	Radioactive Material Gauges	4 year

As shown in the following table of radioactive material activities, 58 inspections were performed in this biennium. This is a 49% increase over the previous biennium. The number of licenses in effect also increased from 81 at the end of the previous biennium to 98 at the end of this biennium.

Radioactive Material Activites

Total Licenses in Effect	License Actions (New Licenses or License Amendments)	Inspections	Facilities Non Compliance	Facilities Brought Into Compliance
98	128	58	27	27

The number of inspections of X ray facilities in the State during this biennium was 189. This has also increased over the 117 inspections performed in the previous biennium. The 189 X ray facilities inspected included 71 medical, 60 dental, 3 veterinary, and 55 DENT (Dental Exposure: Normalization Technique) inspections. A total of 252 X ray machines were evaluated in these inspections. As shown in the following table, these inspections indicated that many facilities are in noncompliance with the Radiological Health Regulations. Further, some facilities that were brought into compliance in the past are once again in noncompliance. Compliance of the facilities with the Radiological Health Regulations would: increase the radiation protection of the occupationally exposed people, reduce the radiation exposure of the general public, and enhance the beneficial applications of radiation.

X ray Activities

Total Registered				Compliance Activities		
Facilities	Machines	Tubes	Inspections	Facilities in Compliance	Facilities in Non Compliance	Facilities Brought into Compliance
529	995	1190	189	83	106	100

In addition to X ray compliance inspections, the radiation control program also conducted field tests of X ray equipment certified under Federal X ray performance standards. Fifty four new X ray machines including 43 medical and 11 dental units were evaluated in this biennium under a contract with the Bureau of Radiological Health of the Federal Food and Drug Administration. Other X ray inspection activities called DENT (Dental Exposure: Normalization Technique) and BENT (Breast Exposure: Nationwide Trends) have been implemented into the radiation control program. The DENT program was completed during this biennium and evaluated dental facilities to reduce the radiation exposure to the X ray machine operator and patient to the lowest practical level. The BENT program is a voluntary mammography quality assurance program which seeks to minimize patient exposure and improve image quality. Sixteen BENT evaluations were performed during this period.

The Department continued its participation with the U.S. Environmental Protection Agency in the ERAMS (Environmental Radiation Ambient Monitoring System). North Dakota is one of 22 active stations in the system which includes a continuous air monitoring station, precipitation sampling, collection of drinking water samples, and placement of TLD's (Thermoluminescent dosimeters) at one location for external ambient gamma radiation levels. Analysis of samples is done at the Eastern Environmental Radiation Facility in Montgomery, Alabama.

The environmental radiation surveillance milk sampling network is currently on a standby alert basis. This milk sampling network, which consisted of sampling stations located at Bismarck, Dickinson, Williston, Minot, Grand Forks, and Fargo, was initiated in the 1960's to monitor the radionuclides entering the environment and food chain as a result of the atmospheric testing of nuclear weapons by the United States and Russia. In the mid 1960's the amount of strontium 90 found in North Dakota milk was consistently well above the other 50 United States. These concentration of strontium 90 in milk reached in maximum in the mid 1960's and have been steadily decreasing. At the present, the levels of strontium 90 and other radionuclides found in the milk have been at less than detectable levels thereby justifying the curtailment of routine milk sampling network operations. The milk sampling network will continue on a standby alert basis in the event of renewed atmospheric testing, as well as to have a monitoring capability in the event of the venting of underground tests of nuclear devices. Environmental radiation surveillance emphasis has been shifted to the radiochemical analysis of water and other environmental samples for the routine analysis of tritium, heavy metal discharges from fossil fuel tired power plants and for waste discharge of radioactive materials from facilities licensed to use radioactive material.

The use of nonionizing radiation sources was investigated, to only a limited extent, during this biennium due to the lack of manpower. The radiation control program makes every effort to evaluate, upon request, electronic products to determine the acceptability of levels of nonionizing radiation for safe use. Microwave oven surveys were completed and the results forwarded to the Bureau of Radiological Health of the Federal Food and Drug Administration, Region VIII office in Denver. Due to manpower limitations, no attempt was made to actively seek out nonionizing radiation sources used in the State. The evaluations performed were on an "as requested" basis only.

The radiation control staff attended several training courses sponsored by the U.S. Nuclear Regulatory Commission, including a ten week course in Health Physics and Radiation Protection and a two week course on Radiological Emergency Response.

Institutional Environmental Programs

Architectural plans and specifications pertaining to new construction and/or remodeling of hospitals, nursing, intermediate care facilities (ICF) and other related institutions were reviewed in cooperation with the Division of Health Facilities. The program staff reviewed, obtained necessary changes and approved specifications from the standpoint of public health and for compliance with applicable codes and regulations.

During the various phases of construction and upon completion of the project, this Department made construction inspections to determine proper compliance with approved plans and specifications.

Again as in the last biennium, the majority of the activity this biennium was in the area of intermediate care facilities with 701 beds being involved in construction or planned construction.

Hospitals and nursing homes construction slowed down considerably as most of the major building of additional beds had been done in the previous bienniums. More emphasis was placed on additional space for outpatient care, increased administrative area and added services, such as occupational therapy, physical therapy, kidney dialysis, X-ray, etc. The only hospital beds involved were ICU CCU beds.

Plans and specifications for new construction or remodeling of public schools were reviewed for compliance with applicable codes and regulations which pertained to public health aspects of schools. This review was performed in cooperation with the Department of Public Instruction. A total of 31 projects were reviewed during the past report period which was a decrease over the previous biennium of 52 projects. As in the past, most of the projects were remodeling and additions with heating, lighting and ventilation improvements.

Table 52

Facilities	Institutional Environmental Activities			
	Plans and Specifications Reviewed	Beds Involved in Construction or Remodeling	Inspections	
			Construction	Licensing
Hospitals	39	18	26	
Nursing Home	3	49	2	
Intermediate Care Facilities	36	701	29	
Schools	31			
Others	3	94	3	6

Occupational Health

The goal of the occupational health program is to assure insofar as practical that no employee will suffer diminished life expectancy as a result of his work experience.

The primary function of the occupational health program within the division was to assist the Workmen's Compensation Bureau in a consultive role by providing occupational health services. These services were provided to both employers in the public and private sectors.

Beginning on October 1, 1978, the division entered into an agreement with the U.S. Department of Labor to assist owners of small businesses in North Dakota with a voluntary program of protection of the work environment. This voluntary consultation program is contrasted to the regulatory OSHA enforcement in North Dakota administered by the Denver Regional Headquarters. This consultative service is provided Statewide at no cost to the employer and is designed primarily for businesses which cannot employ full-time health and safety professionals.

Since entering into this agreement, the majority of effort has been in training the two health and safety consultants in OSHA rules and regulations and in the use of technical-scientific equipment for use in evaluating occupational health problems, including toxic chemicals and other potential problems with such things as ventilation in the work place.

The two individuals plan to work Statewide at the request of the employer and provide recommendations and subsequent implementation of the recommendations being implemented which would result in an improvement and protection of the work place. The advantage of this program to North Dakota businesses is to provide a mechanism to obtain consultive advice before OSHA Compliance Inspector arrives.

Noise Control

In January of 1976, the North Dakota State Department of Health, Division of Environmental Engineering, entered into an agreement with the U.S. Environmental Protection Agency. This agreement provided the Health Department with funds to assist communities in the primary energy development impact area of Western North Dakota in the development of community noise control programs. A comprehensive noise ordinance was adopted by the Dickinson City Commission on October 3, 1977. Draft ordinances were prepared for two other communities, Bismarck and Beulah, in the energy related area. Although the activities under this agreement have been completed, the assistance being provided to communities has continued on a limited basis. Due to lack of funding, the Department has not been able to actively promote community noise control program development; although, the Department has assisted communities interested in noise control.

North Dakota received an EPA State Noise Assignee who began work in March 1979, and will be with the Department for two years. A major accomplishment of the State Assignee will be the development of State noise control regulations. The North Dakota State Department of Health was given authority to establish rules, regulations, and standards on January 5, 1971, in House Bill No. 1436. The State Assignee will also be conducting noise surveys to determine the existing ambient sound levels throughout the State and to ensure that reasonable allowable levels are used in the regulations.

Department personnel have responded to several noise complaints and have noted the number of complaints received by the Department has increased substantially in recent years. The complaints received have related to refrigeration units on truck trailers, a ventilation system on top of an office building, power plants, railroad switching operations, gas substations, sewage treatment plants, loud vehicles, sirens, aircraft operations, and grain dryers.

Research Trace Elements

A two year investigation of the background concentration of trace elements in soil and vegetation was conducted by the North Dakota State Department of Health during 1978 and 1977. This investigation focused on a wide-area sampling of soil and vegetation in Western North Dakota.

The area, 2,400 square miles, included sites of many of the active and proposed new coal-fired electrical generating facilities.

In addition to soil and vegetation samples, coal samples were obtained from the four operating mines in the area. Analysis of trace element concentrations were conducted on these samples. A computer diffusion model was used as a tool to estimate dry deposition (atmospheric fallout) of fly ash emitted from stacks of the facilities.

The broad objective of the initial phase (Phase I) of research was to determine effects of trace elements, which were redistributed by coal-fired energy conversion facilities, on living organisms. The study concluded, on the basis of the soil data, coal data, and the rate of deposition (surface accumulation), that environmental enrichment or increased environmental exposure (through increased air concentration of trace elements) would not cause detectable adverse effects on living organisms over a time period of one year.

Although Phase I involved collection of 205 soil samples, the density of sampling sites was inadequate to detect patterns of soil concentrations of trace elements which may be attributable as deposition from plumes of coal-fired facilities. The results of Phase I did not provide any evidence of enrichment of trace elements in the study area. However, this study provided a very valuable base of sampling experience necessary for a Phase II of the project.

Considerable research information on trace elements is available. The information does not provide rates of ecosystem enrichment from coal-fired facilities which can be used to assess environmental consequences of enrichment. In order to establish rates of enrichment, field data must be gathered.

The objectives of Phase I were modified to reflect Phase I experience and results and to expand the project's capability of assessing environmental consequences of trace element enrichment. These objectives of research during the 78-79 biennium were as follows:

1. To establish baseline trace element concentrations in air, soil, water and vegetation in the vicinity of a specific coal-fired facility.
2. To determine the rate at which trace elements will be introduced to the ecosystem by air waste streams of coal-fired facilities.

3. To examine baseline data for evidence of current influences by a coal-fired facility.

4. To identify and evaluate any impacts from the disposal of solid and liquid process wastes.

5. To identify and evaluate mechanisms by which trace elements transfer within the ecosystem among soil, water and vegetation components.

6. To examine the data as evidence for a need for developing regulatory controls of processed wastes containing trace elements.

Analysis of trace elements in snow, rainfall, surface water, soil, vegetation, coal, and stack flue gases was underway at the end of the period. A full report was also in preparation.

Special Studies

This division was actively engaged in a number of special studies during this biennium.

The primary activity was in continuing to prepare the climate and air quality portion of the Environmental Impact Study of a seven county area in western North Dakota. This study addressed the environmental impacts expected from coal mining and every conversion in the counties of Oliver, Mercer, Dunn, McLean, Stark, Morton and Burleigh. This cooperative State/Federal effort analyzed the cumulative climate and air quality impacts from the proposed energy conversion facilities, including the Coyote I and II power plants, the American Natural Gas Company gasification plant, the Basin Electric Antelope Valley Station and the Natural Gas Pipeline gasification plant as well as a site specific analysis of the Glennharold mine.

Also, during this biennium the division established an air quality monitoring study network of seven air quality sites located throughout the energy development area of southwestern North Dakota. This monitoring study was funded by the Regional Environmental Assessment Program. The project was initated in the last biennium and ran approximately two years terminating in 1978. This study assessed the air quality and climate of the southwestern portion of North Dakota and provided valuable information which was used for research work within the division.

Several other short-term special studies were undertaken during this biennium. Some of these included acid rain determination, monitoring ozone production from transmission lines and updating the air dispersion modeling capabilities of the division. Further work in these areas are planned for the next biennium.

DIVISION OF ENVIRONMENTAL SANITATION AND FOOD PROTECTION

The following environmental programs are both preventive and surveillant in nature; preventive in that they are designed to protect the public from some of the infectious diseases as well as from undue exposure to numerous environmental hazards; surveillant in nature in that they allow for maintenance of ongoing surveillance to enable the detection of infection or damaging and unnecessary involvement with various environmental hazards thus allowing for the establishment of preventive activity.

I. GRADE A MILK

A. Introduction

The 1977 Legislative Assembly transferred the total regulatory responsibility for Grade A and manufacturing grade milk to the Office of the Dairy Commissioner of the State Department of Agriculture.

However, the Office of the Milk Sanitation Rating Officer (Interstate Milk Shipper's Agreement) remains in the State Department of Health. In order to maintain the high quality of the Grade A milk produced in the State of North Dakota it is imperative that this office remain in the State Department of Health and independent of any state agency responsible for supervision of the Grade A Milk Program.

Prior to the transfer of total regulatory responsibility to the office of the Dairy Commissioner, the regulatory responsibility was shared between the local health departments and the dairy commissioner. In all areas where there were local health departments they had the responsibility for the Grade A Milk Program. In areas of the State where there were no organized local health departments, the dairy commissioner assumed responsibility. At no time did the State Department of Health have regulatory authority, theirs was simply to assist local health departments with their milk programs.

The Office of the Milk Sanitation Rating Officer has from its inception been located in the State Department of Health.

In order for a North Dakota Grade A Milk Processing Plant to ship its product interstate, they must acquire a Milk Sanitation Rating by an **"FDA Certified Milk Sanitation Rating Officer"**. This rating must be 90 percent or better to qualify for interstate shipment of their product. This ensures receiving states the product being shipped into their state is safe.

The rating officer acts as consultant, aids in training of dairy inspectors and is responsible for uniform interpretation of the Pasteurized Milk Ordinance. He/she also works closely with the FDA regional personnel.

There are 17 Grade A milk processors, transfer stations, etc. in North Dakota that must be rated once every two years by the State Milk Sanitation Rating Officer. They are, in the interim, **check rated** by FDA regional personnel to be sure the rating given by the state person is still valid. This past biennium there were 20 ratings by the State Milk Sanitation Rating Officer and 12 check ratings by FDA regional personnel with 13 adverse actions requiring another rating because of low scores.

This rating procedure provides two functions: 1. as mentioned before, it allows the processing plant to ship their product interstate, providing the rating score is 90 percent or above; 2. it provides a means of measuring the Regulatory Agency's Program by pointing out problem areas and making recommendations for improving the program, thus ensuring a safe, wholesome product for consumers.

B. Objective

1. To ensure that the Grade A milk produced in the State of North Dakota is safe for the consuming public.

C. Methods

1. The provision of thorough, properly spaced **rating surveys** on each of the 17 Grade A Milk Processors and the specified statistically significant number of the 621 Grade A Producers by the "Milk Sanitation Rating Officer." Thoroughly done, well spaced **check rating** surveys of the Grade A Milk Processors and the specified statistically significant number of producers by the FDA Regional Milk Consultant.

The provision of the specified disciplinary action against any processor and/or producers that fail to meet the requirements of the "Pasteurized Milk Ordinance and Code".

Ensure that any technical problems arising in the production or processing of milk or in the interpretation of the "Pasteurized Milk Ordinance and Code" (PMO) will be quickly corrected.

Ensure coordination with other State's Milk Regulatory Agencies, both in and out of the state.

II. VECTOR BORNE ENCEPHALITIS SURVEILLANCE

A. Introduction

The State of North Dakota suffered a serious epidemic of Western Equine Encephalitis (WEE) the summer of 1975. Seven deaths were attributed to WEE that year, with 54 clinical cases diagnosed. In addition, about 81 horse cases were reported. The 1975 epidemic followed the inundation of several million acres of land in the Red River Valley, the result of an extraordinarily heavy rainfall on June 27th and 28th. The large land area covered with shallow standing water at that particular time of the season allowed the breeding of massive numbers of transient water mosquitoes, especially **Culex tarsalis**. The ultimate result was hordes of mosquitoes, goodly numbers of which were infected with the WEE virus. The year 1976 fared much better with only four human cases and no deaths.

However, the year 1977 again produced a serious situation for North Dakotans with three human cases and 85 positive horse cases. 1978 was a quiet year, being it was one of two years since 1927 when there were no human cases confirmed.

The North Dakota Department of Health in 1977 instituted the embryo of a Western Equine Encephalitis Program. Starting with the procurement and placement of 27 New Jersey Light Traps. This was a cooperative effort by local health departments, vector control districts and the State Department of Health. One should keep in mind that there were no budgeted funds for this program and that New Jersey type traps with time clocks, cost $120 each. At the onset of the 1975 epidemic it became alarmingly clear that no one really knew what constituted an unusually heavy concentration of mosquitoes, numbers being of great importance. In other words "what was normal?" The Surveillance Program was recognized as the mechanism that would, 5 to 10 years down the road, be able to tell us what, on a given date, would be a normal expected concentration of mosquitoes. In addition to the mosquito light traps, an inventory of the practicing veterinarians was taken weekly to determine the number of horse cases they were seeing.

While horses are reported to be an early indicator of WEE in an area, it was decided that another method of detecting infection would be of value. By the use of CDC Miniature Light Traps using the attractant CO_2, a live trapping operation was begun. The live trapped mosquito specimens were frozen and sent to the CDC Laboratory at Fort Collins, Colorado, for WEE virus isolation. In 1978 the permanent trap network (New Jersey Type Traps) was expanded from 27 to 39. In addition, provisions were made for Department staff to draw a limited number of convalescent horse bloods, there was increased live trapping during the season and a summer employee was put on to do the mosquito counting and identification for all the permanent trap sites.

Again in 1979 substantial improvements in the program have been made, from 39 permanent trap sites it has been expanded to 55, instead of 31 live trap locations there were 51. The State Department of Health Laboratory has developed the capability to do the horse blood serology as well as the human serology. Basic discussions have begun to develop the capability within the State to do the necessary virology with the live trapped mosquitoes.

B. Objective

Reduce to the absolute minimum the possibility of human infection with the virus of WEE in the State of North Dakota.

C. Methods

1. Formation of vector control districts throughout the state. The formation of functioning vector control districts will drastically reduce the numbers of adult mosquitoes, most specifically those that are vectors of WEE. This in itself will reduce the possibility of WEE transmission.

a. The formation of vector control districts will require substantial amounts of staff and time and a great deal of travel, as it will be necessary for staff to meet with various citizen groups, city councils, mayors, boards of county commissioners, etc. Both travel and time are **now** costly.

2. Early detection of WEE virus activity. Early detection of WEE virus activity in the State could allow time for mosquito adulticiding activities to be conducted in the local area where such virus activity is present, thus perhaps preventing the occurrence of a human case. Early detection will be made through two means:

a. Live trapping program

The employment of two entomologists to the summer staff of the division will certainly enhance the mosquito identification facet of the program as well as dramatically enhance the the live trapping operation. Live trapping of mosquitoes appears to be the most reliable means of early detection of WEE virus activity in the area. Horse cases are not as reliable because too many horses are now being immunized against WEE and too many other etiological agents are causing the same symptoms as WEE. Considerably more live trapping activity is being planned for the next fiscal year, which means more traps will now be purchased, more travel expense will be incurred.

b. An effective program of immediate reporting of clinically diagnosed horse cases.

The rapport between staff and the practicing veterinarians need to be developed further which will allow a quicker more positive reporting of horse cases. Because of the expense on the part of the horse owner in having a veterinarian draw a convalescent sample, this department has made arrangements for one of its staff to draw a limited few convalescent bloods. This is essential for confirmation of a clinically diagnosed case where the veterinarian drew an acute blood sample. This year a number of clinically diagnosed horse cases died before being able to confirm or deny those cases. Arrangements have been made with the veterinarians for the taking and submission of a few horse brain tissue samples. The brain tissue samples as well as blood samples are very costly procedures, thus a limit must be established as to the number of each.

3. Permanent Light Trap Network

The concentration of mosquitoes in an area is of grave importance, most especially the concentration of the primary vector of WEE **Culex tarsalis**. An area may have WEE virus activity, but if the **Culex tarsalis** concentration is very low, the potential is not great. However, if there is WEE virus activity in an area and the Culex tarsalis concentration is high, the potential for transmission is very real. This indicates the extreme importance of the permanent light trap phase of the program. This year there were 55 trap sites around the State. The ultimate permanent light trap network hopefully will include an average of two traps per county.

4. Fogging Equipment

Spraying or fogging is not the way to approach mosquito control, however, when mosquito concentrations are high, expecially **Culex tarsalis** and there is WEE virus activity in the area, then the name of the game is to knock down as many adult mosquitoes as quickly as possible. There is a time and a place for spraying and /or fogging and that is it. It is recognized that vector control districts will not be formed throughout the State overnight, thus in the interim each town should be equipped with some adulticiding equipment for emergency use. Even with vector control districts there are times when some adulticiding activities may be called for. These, of course, should be rather few and far between.

III. SUMMER CAMPS

A. Introduction

The Summer Camp Program is important when one considers the numbers of young people concentrated into camp settings each season. The possibilities of serious problems developing, especially due to environmental hazards is sometimes frightening.

The State of North Dakota has no camp licensure thus no particular agency has been charged by legislative authority to deal specifically with summer camps.

However, in 1968 the State Health Council officially adopted "Minimum Requirements for Sanitation in Camps" as a regulation which is based on the authority of Section 23-01 of the North Dakota Century Code. The Division of Environmental Sanitation of the State Department of Health has, since the regulation's adoption in 1968, been inspecting the summer camps located outside the various local health department jurisdictions.

Remarkable achievements have been made in the Summer Camp Sanitation Program, especially during the past 10 years. The achievements involved such areas of environmental concern as new food service buildings; new sewers, lift stations, lagoons; new toilet-shower facilities; improved storage of trash and garbage with disposal at municipal sites rather than at the camp itself and numerous other less important items.

B. Objective

1. Provide an environmentally clean and safe camp for the young people utilizing such facilities.

C. Method

It has become evident over the years that **most** camp directors want to know what the Health Department expects of them or wants them to do in order for them to operate a good safe camp. Periodic inspection (annual) is necessary in order to determine what problems or short comings a camp may have. Upon completion of the annual inspection a detailed report must be prepared and forwarded not only to the camp director, but the board of directors as well. Frequently division staff will be requested to meet with the boards of directors in order to solve what may be considered major problems.

IV. STATE INSTITUTIONS

A. Introduction

The State Department of Health recently entered into an agreement with the Director of Institutions for the provision of Environmental Sanitation Inspections of all state institutions under the purview of the Director of Institutions. This will allow the Director of Institutions to have, at least annually, a detailed inspection report for each institution. The agreement will also provide for the consultative or inspection services of any or all professional staff services in the State Department of Health. It has been **several** years since such services were provided to state institutions. During the tenure of the former Director of Institutions there was an extremely close working relationship between the two agencies which resulted in **many** excellent accomplishments. In fact, the cooperation was so good that the Director of Institutions Office would not make a purchase of any major equipment, nor change procedures in any of the institutions without first clearing the contemplated action with the State Department of Health.

The principal areas of concern that the State Department of Health will evaluate in the State Institutions are: food service; laundry; garbage and trash storage, transportation & disposal; insect and rodent control; housekeeping and toilet bathing facilities.

Because of the many problems that exist within a mini community such as a summer camp or institution a program of periodic evaluation of the environmental sanitation is basically **essential**.

B. Objective

1. To ensure that the institutionalized citizens of North Dakota will not suffer because of unsafe or environmental, unsanitary facilities.

C. Methods

Periodic evaluation of the State Institutions, approximately 21, by personnel from the State Department of Health should reduce, if not eliminate, the environmental hazards common to such facilities. In fact, the only reason there should be problems is, if there is deviation in procedures by staff or if the administration of a specific facility fails to carry through on specifically recommended equipment or physical plant changes.

In addition to periodic inspections there will be opportunities for extended consultation between facility staff and various environmental specialists of the Health Department.

V. PESTICIDE AERIAL SPRAYING PERMIT PROGRAM

A. Introduction

In the State of North Dakota the responsibility for pesticides is divided between several agencies. The State Laboratories Department has responsibility for pesticide registration, licensure of applicators, both private and commercial, as well as general control over all pesticides falls within the jurisdiction of the State Department of Agriculture. However, the **aerial application** of pesticides over urban areas is very tightly restricted by the State Department of Health.

During the course of a summer this department receives numerous requests from cities for permission to make an aerial application of pesticide for the early season nuisance type mosquitoes, canker worms, army worms, black gnats, etc. These requests are being denied in accordance with Air Pollution Control Regulations, Section 23-25-10.120. This regulation states rather specifically that such permits are to be approved **only** for well thought out **public health** purposes and even then only in **emergencies**. The nuisance variety of mosquitoes poses no real public health problem, thus communities are advised to wait until the disease vector mosquitoes, such as Culex tarsalis become more abundant and pose a serious threat to the health of the people.

Killing adult mosquitoes has **never** been considered the way to handle a mosquito problem. The only time we become serious about killing adult mosquitoes is when we are forced to deal with the reality of an epidemic of Western Equine Encephalitis. Then the name of the game is to kill as many mosquitoes as quickly as possible. Thus, the realistic approach to mosquito control rests with a program directed toward the mosquitoes in the larval stage which occurs in water.

An important point that is generally not understood very well is that the benefit derived from aerial spraying mosquitoes is extremely short lived, perhaps a day or two at the most. When aerial spraying is considered from a cost benefit point, it just does not make sense to seek a day's relief from nuisance mosquitoes for the rather considerable cost involved. However, when dealing with mosquitoes that are capable of transmitting encephalitis, then the cost could very well be worth it.

B. Objective

Reduce to the minimum the unnecessary exposure of the people in the urban areas to pesticides through aerial application.

C. Method

There will be careful review of all applications for aerial spraying over cities in North Dakota with only those meeting the criteria expressed under the regulations permitted. Each request will have to be evaluated on its public health potential.

VI. FOOD SERVICE

A. Introduction

The inspection and licensing responsibility statewide for this program area rests with the State Laboratories Department. Under State Law, cities are permitted to promulgate, adopt and enforce City Ordinances. A number of cities in the State have adopted the "Food Service Sanitation Ordinance and Code, USPHS, 1962 Edition", as a City Ordinance and have authorized their health departments to enforce it. This has resulted in duplicate inspection and in some cases dual standards being applied.

One of the basic areas of responsibility of the Division of Environmental Sanitation and Food Protection of the State Department of Health has been consultation and training, especially within the area of food service sanitation. Through the years this Division has carried out many training programs for local health department sanitarians, either by utilizing visiting faculty e.g. FDA, PHS, etc. or its own personnel.

A statewide survey carried out in 1975 showed the food service sanitation to be about equal to the national level. The average demerit score was 53.4, indicating a serious need in this area.

B. Objectives

1. Provide safe sanitary restaurants for the public.

C. Methods

1. Emphasize the formal training programs for local health department personnel.
2. Increase the field training on an individual basis.
3. Increase the consultation frequency with local health departments.
4. **Emphasize** the importance of the demerit items on inspections.
5. There must be continuous emphasis on the importance of the three ingredients needed for a good program, i.e. inspection, education and enforcement.

DIVISION OF SOLID WASTE MANAGEMENT

This Division administers the provisions of the North Dakota Solid Waste Management and Land Protection Act of 1975, based on the Federal Solid Waste Disposal Act.

Solid Waste Management Regulations (NDCC 33-20) developed as a result, prescribe standards for the storage, collection, and disposal of solid wastes in order to protect the public health, safety, welfare, and environment of the people of the State.

Specifically the Law provides for:

a) The establishment and maintenance of a cooperative State program for planning and providing technical assistance for solid waste management.

b) The authority for the review of plans and facilities for solid waste management.

c) The promotion of resource recovery systems which enhance the quality of air, water, and land resources.

d) The promotion and assistance in the development of markets for recovered and recycled materials.

e) The authority to issue or revoke permits for waste disposal operations such as sanitary landfills and special use disposal sites.

f) An inspection and enforcement program to insure compliance with Solid Waste Management directives and regulations.

Inspection and Enforcement Activities

With the development of an inspection and enforcement program in 1978, the Division of Solid Waste Management has continued to conduct landfill inspection and enforcement activities. The inspection of North Dakota's 77 sanitary landfills is performed chiefly through monthly aerial inspections. Ground inspections and visitations of landfills and open dump sites are also conducted. The photographs taken during the inspections, along with inspection reports, are sent to the landfill operator, and recommendations are made for possible areas of improvement in the operation. A total of 377 municipal landfill inspections and 183 private landfill inspections were conducted from July 1, 1977, through June 30, 1979. The State has 47 municipal landfills and 25 private landfills. As of June 30, 1979, approximately 49 open dumps remain in the smaller incorporated cities in the State.

The Landfill Operators Training Program was conducted in 1978 and 1979 and will continue in conjunction with future inspection and enforcement activities.

During the biennium, a total of 30 Notices of Violation were issued to sanitary landfill operators for failure to comply with Solid Waste Regulations. Four informal hearings were held during this period and resulted in improved operations, making further action by the Department unnecessary.

The Division of Solid Waste Management continued in its technical assistance and encouragement to North Dakota cities and communities to join together to solve their waste disposal problems. A total of 26 regional collection systems are in existence in the State today. The largest areawide system is the Northwest Solid Waste Management Council, which serves 49 cities in nine counties.

Resource Recovery Activities

An impending shortage of landfill space in the Fargo/Cass County area in 1978 brought forth the decision to seek possible alternative solid waste disposal methods. A market study to determine energy users in the City was completed in March, 1979. The Division of Solid Waste Management was able to obtain technical and financial assistance for this project from EPA.

A resource recovery seminar was conducted in Fargo in April, 1979, to inform City, County, and Regional governmental officials of resource recovery as an option in the Solid Waste Management process.

Abandoned Auto Program

The Abandoned Auto Program, begun in 1973, is administered by the North Dakota State Department of Health. Carrying out the provisions of the North Dakota Century Code 39-26, the program provides for the reduction and removal of junk motor vehicles and other scrap metals from counties and other units of government through contracts with scrap iron processors. Costs of these projects are financed through the abandoned motor vehicle fund, appropriated through a $3.00 surtax on initial vehicle certificates of title.

During the biennium, 12 county projects were completed — bringing the total of completed counties to 32. An additional 13,862 tons of metalic scrap was removed during these 12 programs. To date, approximately 50,000 tons of scrap, consisting mostly of junk vehicles, have been removed from the State and placed into the recycling stream.

Hazardous Waste Activities

The disposal of large quantities of hazardous waste has not been a major problem in North Dakota. However, there has been an increased demand for disposal sites for leftover pesticides, herbicides, and arsenic compounds; waste from high schools, colleges and university chemistry laboratories, and materials from military bases and missile sites.

Eight requests for technical assistance in the disposal of hazardous waste were received by this division within a nine month time frame. Hazardous waste inquiries were referred to out-of-state disposal sites or advised on alternate storage procedures since there are no hazardous waste disposal sites in the State.

A public hearing was held in Bismarck in February, 1979, to explain the proposed hazardous waste regulations. The Division of Solid Waste Management will continue in its assistance in the next biennium in the development of a three hour course for local health districts, law enforcement agencies and emergency service agencies, for the handling of emergency spills of hazardous materials.

A technical advisory committee comprised of professors from the North Dakota State University Cooperative Extension Service and representatives from the North Dakota State Department of Agriculture was formed in June, 1979. This committee is addressing the pesticide container problem in the State.

DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

The primary responsibility of this Division of the State Health Department is the control of surface of all public drinking water systems for the protection of the health of consumers. The Division is also responsible for the State requirements for certification of water and wastewater treatment plant operators, the licensing of septic tank pumpers, and other similar programs established by State statute or Departmental regulations. In addition to the State requirements, the Division also cooperates with the Environmental Protection Agency on the Federal Construction Grants Program and to those aspects of the Federal laws relating to water pollution control or public water supplies which are applicable to the State.

WATER POLLUTION CONTROL:

Plans and Specifications and Other Approvals

During the biennium, the Division reviewed and approved 216 sets of plans and specifications for sewer extensions, eight new sewer systems including treatment facilities. Also included were 44 plans and specifications involving storm sewers, one facility for treating storm sewage wastes and seven new lift stations. Three plans for industrial waste treatment were submitted for approval. In addition, there were six plans and specifications received and approved for miscellaneous facilities not included in the above.

Field

Pollution control programs in the Division require considerable field activities. Departmental and District Health Unit personnel conducted 146 complete inspections of wastewater collection and treatment facilities which involved extensive reporting, 355 other inspections with a report only involving the treatment facility, and 51 visitations. There were 71 inspections, including reports, of industrial waste facilities and 14 surveys of industrial waste handling facilities. There were 10 surveys or inspections of parks and recreational areas. Division personnel investigated 130 pollution complaints, conducted 12 studies, and made 21 surveys involving pollution control. Eleven private sewer systems were checked.

Construction Grants Program

This program is continuing to process applications from municipalities for construction of eligible wastewater treatment projects. Since July 1, 1974, all projects must proceed through three phases. Step I is planning, Step II is the preparation of plans and specifications, and Step III is construction. All known wastewater treatment projects were evaluated by the priority system and the highest priority projects must be funded first. The 1979 Priority List identified 272 projects which were eligible for funding. The allocation for Fiscal Year 1978 was $13,981,500 and for Fiscal Year 1979 was $20,709,000. During the biennium, 39 grants were made for Step I. Twenty one grants were made for Step II and 18 grants for Step III. The total of all grants made to municipalities during this period was $14,767,759. There are projects which have not completed their planning as well as projects which have not completed their plans and specifications. As those phases are completed, grants will have to be made to allow the projects to proceed. Funds have been reserved for some of these projects from the available allotment. The remaining projects will receive funding from future allocations. Several projects have had to be broken into phases to allow for more economical project management and to distribute the money more evenly among the communities in the State.

The 1977 Amendments to the Federal Clean Water Act allows the Environmental Protection Agency to delegate program responsibilities for management of the Construction Grant Program to the individual States. The Department began to prepare the delegation agreement in the Fall of 1978 and submitted the application to EPA in January, 1979. It is anticipated that the delegation agreement will be signed early in Fiscal Year 1980 and will allow the Department to assume full responsibility for the Construction Grant Program over the next biennium.

208 Program

Section 208 of the Federal Water Pollution Control Act Amendments of 1972 requires each State to prepare a Statewide Water Quality Management Plan to restore and maintain the chemical, physical, and biological integrity of the nation's waters. In order to meet these goals, the Department received approximately $700,000 during the biennium to prepare a management plan. This money was used to subcontract with various State and local agencies to prepare three reports. They were the Water Quality Report, Point Source Report, and Non-Point Source Report.

To assess the water quality of the State, a table was made indicating the water quality problems on each of the classified streams within the State. The problem parameters were identified for each stream along with the cause or source, if it is known, and which uses were being impaired because of the Water Quality Standard violations. The second assessment made was on the point sources of pollution within the State. The point sources of pollution are those waste discharges from municipalities, industries, tourism, feedlots, and certain agricultural enterprises, combined sewer systems, and storm sewer systems. All point sources were evaluted to determine if they complied with the North Dakota Pollutant Discharge Elimination System. The third assessment was non-point sources of pollution. In the non-point assessment, the areas reviewed were salinity and sediment that is related to construction, surface mining, land reclamation, and agricultural activities.

For the future, the Department anticipates that the quality of the surface waters will gradually improve. It is noted that for all streams to meet the fishable, swimmable standards set for 1983, certain assumptions and goals must be recognized. An agressive non-point source pollution control program must be established. This program must include means to control pollution from cropland, rangeland, cattle wintering operations, construction activities, surface mining, urban stormwater runoff, and all other non-point sources of pollution. Point source pollution control will require sufficient Construction Grant Program funds to meet all municipal needs.

Other Pollution Control Activities

At the present time there are 634 animal feeding enterprises that have met the requirments or have constructed pollution control facilities that retain or treat runoff from their operations. This is an increase of 168 from the last biennial report. Most of the major streams in the State have now been surveyed in order to obtain location and count of the feedlots in these basins. The survey is being conducted by air.

All waste dischargers, including municipalities, industries, and other waste-producing enterprises are required to obtain a Discharge Permit from the Division. Currently, there are over 350 such permits issued. The average expiration date is from three to five years, with the majority of the permits that were reissued during the biennium having a five-year expiration date. During the biennium, 121 permits were processed. This includes new and/or reissued permits.

Federal law and Departmental policy require that all accidental spills of hazardous materials be reported to the Department. During the biennium, there were 101 spills involving crude oil or salt water in connection with either oil field operation or rupture of pipelines. This is a considerable decrease from the 223 reported during the previous biennium. Approximately one-half of these spills were 10 barrels or less. Large volume spills or where the possibility of water pollution existed, were checked by Division personnel, District Health Unit personnel, or personnel from the State Geologist's Office to ensure adequate control and cleanup.

The Environmental Protection Agency provided the Department with a grant of $50,000 to make an assessment of the pollution potential to underground waters from surface impoundments. Through contracts with the Office of the State Geologist and with a private geologist, the study has been essentially completed. It covered 778 waste handling lagoons and impoundments serving industries, municipalities, agriculture, mining, and oil and gas facilities. The final report will be completed in the fall of 1979.

The Department's Water Quality Standards were revised just prior to the beginning of the biennium. It is the Department's policy to review and revise, if necessary, these standards on the average of once every three years. As a supporting activity for the Water Quality Standards, the Division continues to operate its Surface Water Quality Monitoring Program. The Division has established 48 stream stations for routine sampling, usually on a monthly basis. These stations have been selected in cooperation with the Quality Monitoring program being conducted by the US Geological Survey to ensure as thorough as possible, a network of stream sampling stations within the State to provide an adequate data base for water quality in all of the major and most of the minor State's streams.

WATER SUPPLY PROGRAMS:

Plans and Specifications

Division personnel reviewed and approved 281 sets of plans and specifications which involved extensions to city water distribution systems. They approved 31 water treatment plants or modifications to water treatment plants, 45 new or modifications to municipal waterwells, 13 new or modifications and additions to rural water systems, and 19 sets of plans for facilities such as storage reservoirs, water transmission lines, water intake systems, or pumphouse renovations.

Field

There was considerable field work activity in the Water Supply Program. Personnel made 345 inspections of public water systems with a full report on conditions found and 245 visitations. There were 129 inspections of noncommunity type public water systems. These are systems which serve truck stops, schools, housing developments, and other facilities not within a municipality. Two communities received assistance in setting up fluoridation equipment. Assistance was provided to a number of individuals with private water supply programs including inspections of six such installations.

Following passage of the Federal Safe Drinking Water Act and similar State legislation in 1977, the Department applied for and received primacy from the Federal Environmental Protection Agency to handle all aspects of the Federal Safe Drinking Water Act within the State of North Dakota. During the biennium, the Division was active in accumulating data on all public water supplies within the State, both community and non-community. This involves current data on chemical quality of all public water supplies and initiating an educational program to assist all owners or operators of public water supplies within the State as to the requirements of the Federal and State legislation relative to water supplies. It is expected that all data and information will be completed during the next biennium. All public water supplies are required to submit samples of their finished water for bacteriological analysis on a routine basis. Part of the activities of this Division involve the checking and filing of this data and assisting those facilities that receive unsatisfactory sample analysis reports.

SWIMMING POOLS:

Divisional personnel conducted 11 swimming pool operator training courses at which the health and safety aspects of swimming pool operation and maintenance was stressed. A total of 205 operators attended the classes. It is common for municipalities and park boards to employ high school students for the summer to operate the swimming pool which results in a large number of operators without training. These classes are usually put on at the start of the swimming season.

OTHER ACTIVITIES:

Operator Training and Certification

The Division, with the assistance of the State University and others conducted two annual four and one-half day water and wastewater training schools which were attended by a total of 345 operators. The majority were from municipal plants, but also included were operators from rural water districts, private systems, and industry. In addition, the Division held short four to five hour sessions at five different locations in the State. These were attended by approximately 25 operators per session. The attendance at the annual school is becoming too large to handle at one location and it is anticipated in the future that two sessions per year will be conducted in order to reduce the attendance to acceptable levels. Legislation passed by the State a few years ago requires that all municipalities with a population of 500 or more must have a certified operator or operators for their water and wastewater treatment plants. Certification examinations for operators are given at least twice a year at two locations. At the present time there are 221 operators certified for operation of municipal water systems and 151 for operation of municipal wastewater treatment facilities. There are a small number of communities, which although required, do not have certified operators. The Division is cooperating with these communities in either getting their operator certified or to find an operator that is already qualified. However, certified operators are very difficult to locate.

Septic Tank Pumpers

All septic tank pumpers are required by Law to obtain an annual operating license from the department. Approximately 100 licenses per year are issued. The pumpers have recently formed their own association and the Division and District Health Unit personnel have been active in attending their meetings and providing consulting service.

MISCELLANEOUS:

The division publishes the "Official Bulletin", which is the technical magazine for the North Dakota Water and Pollution Control Conference. Enforcement actions were necessary in a number of instances during the biennium. The division issued 21 Notices of Violation to dischargers for violation of state laws or regulations. This resulted in five hearings to determine the full cause of the violation and in six instances fines are being levied against the pollutors. No municipalities were subject to fine.

During the biennium, division personnel attended 74 city council meetings in regard to either water supply or pollution control facilities or activities and attended 197 other miscellaneous meetings involving subjects related to the division's activities.

The public continues to show an increased interest in the environment and in the control of pollution. This is shown by the increasing number of requests for division personnel to attend and speak at various meetings and to answer the large volume of correspondence relative to the North Dakota programs. The division continues to cooperate with the Environmental Protection Agency and its programs as well as other federal agencies. The Division of Water Supply and Pollution Control is continuing its effort to improve and maintain the water quality of North Dakota streams and the safety of its public water supplies at a level which the citizens desire.

MENTAL HEALTH AND RETARDATION SERVICES

DIVISION OF ALCOHOLISM AND DRUG ABUSE

DIVISION OF COMMUNITY MENTAL HEALTH PROGRAMS

DIVISION OF COMMUNITY DEVELOPMENTAL DISABILITIES/MENTAL RETARDATION SERVICES

MENTAL HEALTH AND RETARDATION SERVICES

The Mental Health and Retardation Services has three divisions:
1) Alcoholism and Drug Abuse, 2) Community Mental Health Programs, and 3) Mental Retardation Programs.

Biennial Report from July 1, 1977 through June 30, 1979

DIVISION OF ALCOHOLISM AND DRUG ABUSE

The Division of Alcoholism and Drug Abuse was established by the 42nd Legislative Session in 1971 under Section 54-38 of the North Dakota Century Code. The division is charged with the responsibility of developing alcoholism and drug abuse prevention, treatment and rehabilitation programs in North Dakota. The Division does not directly operate treatment programs. Rather it coordinates regional programs for treatment delivery.

Program goals and objectives established in the 1977-78 State Plan for the Division of Alcohol and Drug Abuse are listed below.

A. PLANNING

The Coordinator of Planning for the division of mental health and retardation services also serves as the planning staff for the division of alcoholism and drug abuse. The Coordinator of Planning has established initial direction for regional alcohol and drug abuse planning within the state of North Dakota. These initial efforts have centered around the following issues: 1) development of a community alcohol and drug abuse planning program through the distribution of a planning document to help guide regional alcohol and drug abuse agencies and councils in the development of the basic planning program; 2) seminars within each regional catchment area to explain the need and benefits, the current status and commitment, and the future directions of community alcohol and drug abuse planning; 3) the development and distribution of a guide for regional areas in regard to the roles and responsibilities of regional alcohol and drug abuse citizen councils; and 4) the development and distribution of guidelines for developing regional alcohol and drug abuse plans.

B. MANAGEMENT INFORMATION SYSTEMS

The goal for 1977 was to establish a uniform reporting system for all of the alcohol and drug programs in the state. In 1977 only five mental health and retardation centers were under the management information system. Much of the information required on the patient data sheet did not meet the needs of all the alcohol and drug programs within the state. However, since 1977 many revisions have been made in the data collection system and at the present time all of the addiction programs in the state of North Dakota are on the management information system. The new information system has the capability of not only handling data on patients but also on special service clients such as public inebriate programs, DWI programs, and persons, families, or groups of people who receive contact services in relation to the patient. The basic information collected is demographic, diagnostic and discharge data.

C. EDUCATION AND TRAINING

Goal # 1

Conduct and/or assist in conducting a statewide training needs assessment among service providers for alcoholism and drug abuse. This goal was completed in December of 1977. A training needs assessment was conducted which included all mental health professionals in the State of North Dakota. This included all addiction counselors who work in both inpatient and outpatient addiction facilities.

Goal # 2

Provide statewide and regional workshops, seminars and conferences for allied work providers. This goal was completed by December 1977. One workshop was conducted which focused on cost accounting systems. The purpose of this workshop was to familiarize executive directors, and business managers of mental health and retardation centers/human service centers as well as addiction facilities in the area of cost accounting systems. Another workshop was conducted on family therapy as it relates to the chemically addicted family. The main target group for this workshop was addiction counselors working in both inpatient and outpatient addiction facilities throughout the state.

Goal # 3

Provide consultation to all persons, programs and agencies concerned with training. This activity has been ongoing throughout the biennium. Numerous consultations have been made with addiction facilities relating to inservice training programs and also the certification training requirements as it relates to individuals trying to complete the training requirements for addiction counselor certification.

Goal # 4

Provides stipends for counselor trainees who demonstrate financial need who are enrolled in an approved residency training program. Since 1977 21 stipends have been awarded to individuals who have entered training programs within the state. Of this number 10 were just recently awarded in August of 1979 and these trainees will begin their training in September of 1979.

D. LICENSURE OF ADDICTION FACILITIES IN NORTH DAKOTA

The Division of Alcoholism and Drug Abuse is responsible for licensing 22 addiction facilities in North Dakota. This includes eight outpatient centers, six inpatient, seven detoxification programs and one halfway house. All of these facilities are licensed from January 1 through December 31 of any year. During the biennium 77-79 all these facilities were reviewed by site review teams to insure that they were in compliance with the rules and regulations for addiction hospitals and related facilities. The rules and regulations for addiction hospitals and related facilities is the law under which these facilities are licensed. All facilities are reviewed annually to insure that they are in compliance with state law to operate an addiction treatment facility.

E. CERTIFICATION

North Dakota has been certifying addiction counselors since 1972. Since that time the Professional Standards and Certification Committee has certified approximately 250 individuals. These individuals are certified at one of three levels. They are as follows: 1) addiction counselor trainee, 2) addiction counselor, 3) master addiction counselor. The division of alcoholism and drug abuse is administratively responsible for all the work of the Professional Standards and Certification Committee. The work involves keeping individual files on individuals certified, all correspondence from the Progressional Standards and Certification Committee, insuring the quality of training in all of the approved addiction counselor training programs in the State and responsible for issuing certification certificates to all individuals certified.

F. RESEARCH AND EVALUATION

During the last biennium the Coordinator of Research and Evaluation has been instrumental in developing a training needs assessment conducted in all the addiction facilities in the state. A summary report was also compiled and made available to the respective centers. The Coordinator of Research and Evaluation has been actively involved in the five public inebriate programs in the state. These activities include developing a monthly statistical reporting system and preparing the renewal application grants for the five public inebriate programs. Also the Coordinator of Research and Evaluation has worked closely with the Coordinator of Management Information Systems to develop the MIS form and to also work with all of the addiction facilities in the state getting them on the MIS system. In addition the Coordinator of Research and Evaluation has developed and prepared many statistical reports needed for the Director of the Division of Alcoholism and Drug Abuse and other reports needed for the various programs throughout the state.

G. PREVENTION OF ALCOHOL ABUSE AND ALCOHOLISM

Over the past two years the Coordinator of Prevention position has been vacant on our staff. Present plans are to fill that position in 1979 in order to develop and implement alcohol and drug abuse prevention programs throughout the state.

DIVISION OF COMMUNITY MENTAL HEALTH PROGRAMS

The Division of Community Mental Health Programs which began operation in 1961 as designated to perform the following functions in the field of mental health: 1) cooperate in providing services to state and local departments and agencies and other groups for programs of prevention of mental illness; 2) assist in providing informational and educational services regarding mental health to the public and lay and professional groups; 3) assist in providing consultative services to schools, courts, and health and welfare agencies, both public and private; 4) assist in providing outpatient diagnostic and treatment services; 5) assist in providing rehabilitation services for patients suffering from mental or emotional disorders particularly those who have received prior treatment in an inpatient facility.

These functions are accomplished through two services namely Community Mental Health Services and the State Hospital.

The Division of Community Mental Health Programs is also charged with other responsibilities by state statutes. One of its major responsibilities is the establishment, development and maintenance of community mental health and retardation centers and human service centers in the state. There are eight such centers located in Bismarck Mandan, Devils Lake, Dickinson, Fargo, Grand Forks, Jamestown, Minot, and Williston. The Centers in Devils Lake, Dickinson and Williston are unique in that they consist of a combination of area social service centers and the community mental health and retardation centers. These Centers are administered by a local board of directors.

The 1979 State Legislature enacted legislation mandating that by July 1, 1981 the area social service centers and the community mental health centers be collocated in order to enhance the coordination, planning and delivery of human services. County social services and private agencies providing human services are also encouraged to collocate.

During the biennium numerous meetings were held with boards of directors and staff of the various Centers to exchange information and remain abreast of developments and problems related to the centers' programs. Considerable time has been spent by staff in offering consultation to the centers and in writing grant applications to utilize federal funds available for the support of those programs. The staff through licensure site visits have evaluated the centers administrative functions as well as various services to insure that the centers provide adequate and effective services to the citizens of this state. Staff members assisted the centers in the use of statewide uniform, computerized data collection system which provides information on patients served by the centers as well as other meaningful and helpful data. Monthly as well as annual reports are prepared and sent to the executive directo's of the program analyzing and interpreting the data collected.

During the 1979 Legislature the Mental Health Commitment Law was updated and revised. The purpose of the law is to provide prompt evaluation and treatment of people with serious mental disorders, alcoholism or drug addiction.

The staff has been involved in statewide planning for mental health services. The five year plan for mental health was revised so that North Dakota could qualify for the use of federal funds under public law 94-63 for mental health services.

Staff of the division serve on numerous boards and committees, state and local, in continued efforts to coordinate, approve and expand services to the mentally ill and their families. One of the main priorities of the division of the community mental health programs is prevention/education. The staff has had many opportunities to interpret programs of community mental health and retardation centers to civic and church organizations and the general public through talks, news media and publications. Thousands of pamphlets covering a wide variety of mental health subjects have been distributed to the public.

The biennium witnessed forward thrusts on many points in mental health.

DIVISION OF COMMUNITY DEVELOPMENTAL DISABILITIES/MR SERVICES

SERVICES AND ACTIVITIES

The Division of Community Developmental Disabilities/MR Services carries on a variety of supportive activities in an effort to provide more and better quality services to the Developmentally Disabled and their families in North Dakota.* This includes many types of assistance to the regional developmental disabilities programs, workshops for families and those who work with the developmentally disabled, informational activities for families on services available in the state, and public information regarding the nature of developmental disabilities and the needs of those affected. The Division also has the responsibility of licensing facilities for the developmentally disabled.

Specifically, the Division of Community Developmental Disabilities/MR services provides the following services for the developmentally disabled:

1. Information/Education — Disseminates information and education on developmental disabilities through speaking engagements, films, brochures, pamphlets and other types of informational media.
2. Consultation — Provides consultation to various local agencies, programs and various types of service provider units as well as state agencies when requested and appropriate.
3. Licensing and Evaluation — Evaluates and licenses charitable non-profit associations, corporations, which operate treatment care centers for the mentally retarded when they meet the standards in compliance with North Dakota Century Code 25-16.
4. Prevention — Works cooperatively with other divisions of the State Health Department and other state agencies in developing prevention activities such as screening for PKU, developing preschool stimulation programs, and other educational activities.
5. Planning/Research — Develops a state plan for developmental disabilities which describes present services, needed services and funds required to provide these services. The plan includes needs assessments and research activities to assist in planning.
6. Training — Provides inservice training to local organizations, providers, state, local and private agencies, when appropriate and requested.
7. Purchase of Services — The North Dakota legislature in 1967 passed a law entitled "The Purchase of Residential Care for the Mentally Retarded." Under Subsection 25-26-10 purchase of services, it states "the State Mental Health and Retardation Division of the State Department of Health is hereby authorized to purchase from funds appropriated to it for that purpose, residential care, custody, treatment, training, and education for mentally retarded from any treatment or care center for mentally retarded licensed in the State of North Dakota. The cost of such care, custody, treatment and education for each resident shall not exceed the per diem cost of residential care at the largest state institution serving the mentally retarded in North Dakota as determined by the superintendent of that institution for the fiscal year preceeding the contract." Thus the North Dakota State Legislature saw the need to establish community treatment for the mentally retarded.
8. Certification — The North Dakota legislature in 1979 passed HB 1279 which establishes a State Council on Developmental Disabilities. As the administering agency, the Division is responsible for establishing a Committee on Professional Standards and Certification that will develop rules and regulations for the certification of developmental disabilities professionals.
9. Legislature and Plan Review — In order to facilitate cooperation and eliminate unnecessary duplication, the Division reviews and comments on all state and regional plans which relate to programs affecting persons with developmental disabilities. The Division also reviews new and existing laws and regulations related to the planning, delivery, and evaluation of services for persons with DD.
10. Funding Sources and Grants Submissions — Provides information on federal and state laws, policies and regulations regarding the funding of new and/or innovative developmental disabilities programs. Disburses federal and state funds for programming, training, planning and public education.
11. Data Requests — Provides comprehensive data information to local, state, and national programs and agencies on a regular and request basis.

This technical assistance is provided to all types of programs and is given on an as needed basis along with regular on-site consultation visits with no predetermined restraints or time limits.

The Division of Community Developmental Disabilities/MR Services has direct responsibility for implementation and administration of the North Dakota State Council on Developmental Disabilities. Created by federal legislation in 1970 and as a part of North Dakota Century Code 25-01-01.1 as of July 1, 1979 the State Council represents a broadly based approach to planning and promoting a better coordination of services for persons with developmental disabilities. The Council is a 26 member group appointed by the Governor with primary responsibility of planning and advocating for an improved service delivery system. Representatives from health, mental health, social services, education, rehabilitation, and other fields along with very extensive involvement of consumers on the Council helps to lessen fragmentation and to identify important gaps in services and facilities. Developmental disabilities planning and service efforts are also carried out on a local level throughout the state by regional Developmental Disabilities Coordinators funded by the Council and administered within the Mental Health and Retardation/Human Service Centers.

The Developmental Disabilities Act (Public Law 94-103) allocated $150,000 to North Dakota for each Fiscal Year. The Division administers and disburses these funds utilizing State Council priorities in a variety of areas including direct grants to the regional DD programs, public workshops, public education/information, planning services, training, and administration of the State Council on Developmental Disabilities and related services.

ACCOMPLISHMENTS

The major accomplishments of the Division during this biennium include the following:

Legislation

The Division of Community Developmental Disabilities/MR Services in cooperation with the State Council on Developmental Disabilities, consumer groups, various DD service agencies, and interested citizens provided testimony at the 1979 legislative sessions and legislative interim study committees concerning developmental disabilities. The Division has also supported legislation in special education, the Grafton State School, and other DD programs.

The following summarizes bills passed in the 46th Legislative Assembly affecting Developmental Disabilities:

Senate Bill 2056

This bill refers to the creation of multidistrict special education boards. It also relates to transportation costs, special education of exceptional children, county special education programs and election to discontinue mill levies for special education.

Senate Bill 2057

This bill would entitle residents under 21 years of age at the Grafton State School and San Haven Hospital to six round trips home per year at school expense at the same rate allowed for State Officials.

Senate Bill 2252

This bill would provide that any person, partnership, voluntary organization, or corporation, who would establish or operate a family boarding home, group boarding home, or residential boarding care facility for special education children, would have to obtain a registration certificate from the North Dakota Social Service Board.

Senate Bill 2383

This bill would change and update current wording in the North Dakota Century Code 25-15. Vocational Rehabilitation facilities are being defined. Five major programs within the vocational rehabilitation facilities are also being defined: (1) Work Activity; (2) Extended Employment; (3) Vocational Evaluation; (4) Vocational Development; and (5) Residential Rehabilitation. In addition, the Sheltered Workshop Advisory Committee is being reorganized.

Senate Bill 2463

This legislation allows for procedures to exempt school psychologist from licensing. The North Dakota Psychological Examination Board and the Division of Special Education would develop procedures for exemption and must agree who will be exempt from licensing.

Senate Concurrent Resolution 4060

This concurrent resolution provides that the Legislative Council be directed to conduct a study of the Grafton State School program as it relates to community placements, and the role and responsibility of the private and public organizations providing services to the Grafton State School residents on community placement and determine what provisions are needed in the area of guardianship. The program being studied is when a resident of the Grafton State School leaves the institution, who has responsibility for providing follow along services, even though the Superintendent of the Grafton State School is the legal guardian.

Senate Concurrent Resolution 4075

This concurrent resolution provides that the Legislative Council conduct a study on the organization and financing of special education including the requirements of Public Law 94-142, the long-range impact to special education legislation on general fund appropriations and the relationships for delivery of special education services.

House Bill 1010

This bill is an appropriation for defraying expenses of the Department of Health. This bill makes available $3,500,000 to assist in defraying expenses of comprehensive community mental health and retardation/human service centers. It also makes available $200,000 for defraying expenses of local alcohol/drug abuse programs. This bill also makes available $750,000 for developmental disabilities programs, however, part of this amount is to be used as match money of up to one million dollars of Title XX monies, which is in the Social Service budget if it becomes available in President Carter's budget.

House Bill 1101

This bill relates to an appropriation for defraying expenses for the North Dakota Social Services Board. One million dollars of Title XX monies will be set aside as it becomes available in President Carter's budget for developmental disabilities. One-hundred thousand dollars is to be set aside as a pilot project to begin a deinstitutionalization aid program. Monies are to be given to parents to assist them in taking care of their children in the home as opposed to putting them in an institution. Vocational rehabilitation, as part of the Social Service Board, is to receive an allowance of $5,014,162. This is for grants, benefits, and claims to handicapped people in the state of North Dakota. Of that amount of money, $500,000 is to be used for vocational evaluation and vocational development in the vocational rehabilitation facilities.

House Bill 1060

This bill provides that the Mental Health and Retardation Division of the State Department of Health supervise and direct any mental health and retardation service unit established in the State.

House Bill 1061

This bill relates to the collocation of comprehensive community mental health and retardation centers and the area social service centers in the State.

House Bill 1279

This bill relates to the establishment of a state council on developmental disabilities. It defines who shall serve on the Council and the functions and duties of the council. The council will assist in the development or a state plan, monitor and evaluate the state plan, review and comment on all state plans which affect developmentally disabled, provide protection and advocacy, and establish a committee on professional standards and certification that will develop rules and regulations for the certification of developmental disabilities professionals.

House Bill 1576

This bill relates to establishing rules and regulations to assure appropriate medical, social, and psychological services to those individuals who are receiving Title XX benefits under the age of 65.

House Bill 1624

This bill relates to the cost of providing handicapped students with related services, other than transportation as defined by the rules and regulations adopted pursuant to Public Law 94-141, and the cost shall be charged to the Social Service Board of North Dakota.

House Concurrent Resolution 3048

This concurrent resolution directs the Legislative Council to monitor the collocation of comprehensive mental health and retardation centers and area social service centers.

House Concurrent Resolution 3061

This concurrent resolution would direct the Legislative council to conduct a study of deinstitutionalization programs for residents of the Jamestown State Hospital, Grafton State School, and San Haven State Hospital.

Planning

The Division has greatly expanded their comprehensive planning activities during this biennium. The direction has been established for development of the regional planning process. This has involved seminars in each of the eight regions explaining the need and benefits of comprehensive DD planning and the identification of the planning process, techniques for accomplishing planning and the role of citizen participation in planning.

During the past biennium the Division in cooperation with the State Council on Developmental Disabilities developed a statewide plan of deinstitutionalization which provides for procedures and activities: 1) to improve the quality of care and the environment of DD persons for whom instutional care is appropriate; 2) to eliminate inappropriate placement in institutions of persons with developmental disabilities through a system of community programs and services; and 3) to reduce the population of the institution.

The Division has completed the Fiscal Years 1978 and 1979 State Plans for Developmental Disabilities. The Plans are intended to: 1) promote the development of a coordinated planning program for the full range of DD services; 2) identify unmet needs and resources; and 3) the development of citizen participation in the planning and decision making processes. The essence of the Plans are the preparation of a set of specific plans that define the character and direction of future DD programming and set forth the actions necessary to attain the desired results.

Interagency Coordination

The Division as the administering agency for the State Council on Developmental Disabilities fosters inter-agency service delivery/coordination efforts via representation of many agencies who deliver DD services. The Division staff interact with representatives from many agencies/organizations as they carry out Division responsibilities.

Written agreements have been completed between the Protection and Advocacy Board and the State Council on Developmental Disabilities. Meetings have been held with all concerned agency department directors who serve the DD on a regular basis including Health Department, Vocational Education, Social Services, Vocational Rehabilitation, Title XX, Department of Institutions, Special Education and Employment Services on the coordination and development of the DD State Plan, delivery of services, and on accessing additional facilities.

Meetings have been held with and commitments made by Maternal and Child Health concerning funding infant stimulation programs. Meetings have been held with the Title XX funding agency (Social Service Board) for deveoping residential training, work activity, infant stimulation and recreation programming. Commitments have been made and final funding figures are pending. Meetings have been held with the Department of Public Instruction and Board of Vocational Education in developing joint funding of school vocational training programs.

Public Education and Awareness

The Division has supplied brochures, pamphlets and films to the general public of North Dakota. Workshops on the 24 hour care of the DD, the training of group home staff and home health aids (Social Services), and training to nurses at Mary College.

The Division in cooperation with the State Council has produced a sound/slide presentation on the life cycle needs of the DD. Workshops on parenting techniques for the child with a developmental disability were presented. In addition, a professional marketing firm was contracted with to provide radio and TV spots and feature newspaper articles.

Licensing and Evaluation

The Division evaluates and licenses charitable non-profit associations, corporations, which operate treatment care centers' for the mentally retarded when they meet standards in compliance with North Dakota Century Code 25-16.

Licensing is completed on an annual basis through scheduled on-site reviews and through regular and unscheduled on-site visits, telephone, and mail. Specific procedures and evaluation techniques are utilized for each licensure review.

The Division as staff to the State Council also conducts on a quarterly basis on evaluation and monitoring of the progressive achievements of the goals and objectives specified in the State Plan for Developmental Disabilities. The evaluation reflects: 1) the extent to which resources are being identified and utilized; 2) the manner in which gaps in the service program are being filled; and 3) the extent of program commitments by various public and private agencies toward services for the DD.

FUTURE DIRECTIONS AND CHALLENGES

Major challenges which offer tremendous opportunity to the Division for improving the quality of life and guaranteeing the rights and dignity of persons with developmental disabilities include but are not limited to:

Statewide

1. A strong state developmental disabilities agency should be developed. This agency should have the authority to plan, coordinate, implement, fund and purchase services, should provide consumer entry into the service delivery system, including initial and ongoing assessment and service planning and should facilitate development of a continuum of services which allows an individual to receive the specific services needed at any given time. The agency should coordinate community programs including all aspects of planning, budgeting, and operation. The agency should develop and maintain an up-to-date client tracking system and mechanism for referral to available services and resources for consumers, parents and professionals.

2. A statewide system of case managers should be developed as a community support group to serve as the point of reference for all consumers in the developmentally disabled population and family constellations.

3. Present early screening programs should be developed into an integrated system of screening and diagnosis to alleviate the onset of developmental disabilities.

4. Developmental disabilities units should be established in the mental health and retardation centers and human service centers with satellites in outlying areas of the region. These units to provide intense intervention to preschool developmentally disabled children, parent counseling and training, consultation to schools and other agencies, and training and consultation to service providers in the transitional continuum for deinstitutionalization. Supplementary services would be case management, client tracking system, transportation and resources to individuals and agencies requesting assistance.

5. A mechanism for developing funds to provide construction of residential and vocational training settings through direct loan from a state housing agency or guarantees from the State Legislature should be developed.

6. A demographic study of placement of the community facilities needed for a transitional continuum for deinstitutionalization should be conducted. A consumer who successfully moves through the transitional continuum should theoretically be able to operate in or very near their home community. A consumer who is arrested at the work activity level should have access to that facility with its concomitant housing within a multi-county level. A consumer who is arrested at the extended employment level of the transitional continuum would probably need to be served at the regional level through the services of a rehabilitation workshop and DD unit.

7. Development of a transportation component perhaps in conjunction with the elderly should be explored.

Regional

In view of the fact that the community based programs of services for the developmentally disabled have started from a zero point just a few years ago and have not yet developed to a point of meeting 100% of the present needs, coupled with natural population growth and effective deinstitutionalization and alternatives prior to deinstitutionalization, regional needs must be considered. Projection of unit need, where a unit is defined as one consumer utilizing one service, for each region should be studied.

* For purposes of North Dakota State DD planning, during this past biennium developmentally disabled persons are defined to include: 1) those with conditions of mental retardation, cerebral palsy, epilepsy or autism, or other neurological conditions which are closely related to mental retardation that results in impairment of general intellectual functioning or adaptive behavior similar to that of mental retardation, requires treatment and services similar to those required for mentally retarded persons, and dyslexia resulting from a disability described in the material before the age of 18; 2) has continued or can be expected to continue indefinitely; and 3) constitutes a substantial handicap to the person's ability to function normally in society.

COMMUNITY PUBLIC HEALTH SERVICES

PERSONNEL IN DISTRICT HEALTH DEPARTMENTS

June 30, 1979

Custer District Health Unit – Mandan

*B.A. Girard, M.D.	District Health Officer
*Associate County Health Officers:	
Grant	M.S. Jacobson, M.D., Elgin
Mercer	B.A. Girard, M.D., Mandan
Morton	B.A. Girard, M.D., Mandan
Oliver	B.A. Girard, M.D., Mandan
Sioux	M.S. Jacobson, M.D., Elgin
*Associate City Health Officers:	
Hazen	Vacant
Mandan	B.A. Girard, M.D.
Frank Gilchrist, B.S.	Executive Officer and Sanitarian
Marvel Baisch, R.N.	Public Health Nurse
Helen Kary, R.N., B.S.	Sr. Public Health Nurse
Vicki C. Provolt, R.N.	Public Health Nurse
Helen Reich, R.N.	Public Health Nurse
Karen Shreve, R.N.	Public Health Nurse
Iver C. Unterseher	Sanitarian

First District Health Unit – Minot

*O.S. Uthus, M.D.	District Health Officer
*District Deputy Health Officers:	
Bottineau	C. Robert Miller, M.D., Bottineau
Burke	James B. Smith, M.D., Powers Lake
McHenry	Richard S. Larson, M.D., Velva
McLean	Ramon G. Hallare, M.D., Garrison
Renville	Walter Gokavi, M.D., Mohall
Sheridan	Harold Kuplis, M.D., Turtle Lake
Ward	Joseph Capek, M.D., Minot
Molla Romine	Administration Officer
Lillian Yesenko	Office Manager
Penny Hamilton, R.N., B.S.	Public Health Nurse Supervisor
Viola Beyer, R.N.	Public Health Nurse
A. Pauline Bold, R.N.	Public Health Nurse
Elaine Bostow, R.N.	Public Health Nurse
Lois Ferguson, R.N., B.S.	Public Health Nurse
Ruby Hinds, R.N.	Public Health Nurse
Mary Ann Hopkins, R.N.	Public Health Nurse
Elaine Jones, R.N.	Public Health Nurse
Mary Lou Fundingsland	Public Health Nurse
Rose Christensen	Public Health Nurse
JoAnn Reich, R.N.	Public Health Nurse
Jeanne Wulf, R.N.	Public Health Nurse
Barb Blikre	Public Health Nurse
Linda Wright	Public Health Nurse
Sandra Anseth	Public Health Nurse
LaVonne Whorley	Home Health Aide
Darlene Haugstad, R.N., B.S.	Public Health Nurse
Roger C. Cilke	Chief Sanitarian
Chris Helgesen	Sanitarian
Robert Rowan	Sanitarian
Rick Bergeson	Sanitarian
Linda Ruland	Laboratory Technician
LaRae McDonald	Nutritionist
Connie Springsted	Nutritionist
Margaret Seelig	Nutritionist
Karen Schroeder	Nutritionist
Barbara Fowlkes	Nutritionist
Lolita Stalcup	Nutritionist
Deborah Boe	Nutritionist
Barbara Pelfrey	Dental Hygienist
William Anderson	Public Health Education
Susan Booth	Medical Technologist

Lake Region District Health Unit – Devils Lake

*Lois F. Pine, M.D.	District Health Officer
*Associate County Health Officers:	
Benson	J. Terlecki, M.D., Minnewaukan
Cavalier	N.J. Kaluznick, M.D., Langdon
Eddy	S.K. Misra, M.D., New Rockford
(alternate yearly)	E.J. Schwinghamer, M.D., New Rockford
Foster	W.C. Voglewede, M.D., Carrington
Pierce	W.R. Fox, M.D., Rugby
Ramsey	Wm. Turkula, M.D., Devils Lake

*Associate City Health Officers:
Carrington ..... Vacant
Devils Lake ..... J.H. Mahoney, M.D.
Langdon ..... N.J. Kalcznick, M.D.
Minnewaukan ..... J. Terlecki, M.D.
New Rockford ..... E.J. Schwinghamer, M.D.
Rubgy ..... Hubert Seiler, M.D.
Norman Septon ..... Administrator and Sanitarian
Bernice Broden, R.N. ..... Public Health Nurse
Barbara Cote, R.N. ..... Public Health Nurse
*Shirley Peterson ..... Public Health Nurse
John A. Himler ..... Sanitarian
Mary Louise Kowalski, R.N. ..... Public Health Nurse
Arlyss A. Lesmeister, R.N. ..... Public Health Nurse
Deborah M. Lovin ..... Eligibility Technician
Rose Marie Nyhus, R.N. ..... Public Health Nurse
Donna L. Rice, R.N. ..... Public Health Nurse
Mary Ann Soli ..... Public Health Nurse
Betty R. White ..... WIC Director

Southwestern District Health Unit – Dickinson
*Ralph J. Dukart, M.D. ..... District Health Officer
*Associate County Health Officers:
Adams ..... Thomas Jacobsen, M.D., Hettinger
Billings ..... Ralph J. Dukart, M.D., Dickinson
Bowman ..... Paul Ahlness, M.D. Bowman
Dunn ..... Walter C. Hanewald, M.D., Dickinson
Golden Valley ..... Vacant
Hettinger ..... Rusty Maravilla, M.D., Mott
Slope ..... Paul Ahlness, M.D., Bowman
Stark ..... Ralph J. Dukart, M.D., Dickinson
John Fields ..... Area Public Health Administrator
Darlene Barthel ..... Public Health Nurse
Judy Bock ..... Public Health Nurse
Donna Doody ..... Public Health Nurse
Karen Dvirnak ..... Public Health Nurse
Carlotta Ehlis ..... Account Technician
Richard Ficek ..... Sanitarian
Margaret Fries ..... Public Health Nurse
Joanne Ferrie ..... Public Health Nurse
Clara Fredrickson ..... Public Health Nurse
Timothy Grosshans ..... Sanitarian
Elaine Hanna ..... Public Health Nurse
Mary Hammond ..... Public Health Nurse
Robert Hennes ..... Sanitarian
Darleen Huckstep ..... Public Health Nurse
Claudia Jacobsen ..... Public Health Nurse
Sue Juntunen ..... Public Health Nurse
Kerry Kingsley ..... Public Health Nurse
Lou Ann Klym ..... Public Health Nurse
Ruth Larsen ..... Public Health Nurse
Betty Maher ..... Public Health Nurse
Carol Nygaard ..... Public Health Nurse
Karen K. Parke ..... Nutritionist-WIC Coordinator
Marian Retzer ..... Public Health Nurse
Sharon Runcorn ..... Secretary
Carleen Sperle ..... Public Health Nurse
Suzanne Strand ..... Public Health Nurse
Joanne Steffan Schneider ..... Public Health Nurse
Adeline Temanson ..... Public Health Nurse
Joyce Urlacher ..... Health Maintenance Coordinator
Patricia Voll ..... Public Health Nurse
Joan Wolberg ..... Public Health Nurse
Christine Zander ..... Health Maintenance Coordinator

Upper Missouri District Helath Unit – Williston
*Jerome Olson, M.D. ..... District Health Officer
*Associate County Health Officers:
Divide ..... C.O. McPhail, M.D., Crosby
McKenzie ..... Gerd D. Ebel, M.D., Watford City
Mountrail ..... David Covington, M.D., Stanley
Williams ..... Jerome Olson, M.D., Williston
*Associate City Health Officers:
Crosby ..... C.O. McPhail, M.D.
New Town ..... H.J. Wilson, M.D.
Parshall ..... F. Blatherwick, M.D.

Stanley ..... David Covington, M.D.
Tioga ..... Ramon Patel, M.D.
Watford City ..... Gerd D. Ebel, M.D.
Williston ..... Jerome Olson, M.D.
Frank Onufray, P.R.S., B.L.S. ..... Area Public Health Adminstrator
Karen C. Bingeman, R.N., B.A. ..... Public Health Nurse
Noel M. Gorseth, R.N. ..... Public Health Nurse
Anna M. Holm ..... Laboratory Technician
Dorothy A. Krise, R.N. ..... Public Health Nurse
*Lois L. Kunka, R.N. ..... Public Health Nurse
*Gayle McPherson, R.N. ..... Contract Nurse
Doris M. Molland, R.N. ..... Public Health Nurse
Elizabeth Timm Policky ..... Nutritionist
Sylvia Shae, A.A. ..... Secretary

Central Valley Health Unit – Jamestown
*R.S. Woodward, M.D. ..... District Health Officer
*Associate County Health Officers:
Stutsman ..... R.S. Woodward, M.D.
Logan ..... E.H. Goodman, M.D.
Sharon Unruh, R.N., B.S.N. ..... Unit Administrator
Leona Gray, R.N. ..... Public Health Nurse
Pam Gause, R.N., B.A.N. ..... Public Health Nurse
Cecilia Marcy, R.N., B.A.N. ..... Public Health Nurse
Ruth Spicer, R.N. ..... Public Health Nurse
Sue Roh, R.N., B.A.N. ..... Public Health Nurse
Mary Metz, C.L.T. ..... Dir. of Family Planning Services
Rae Ann Mayer, R.N., B.S.n. ..... Nurse Coordinator
Judy Pray, R.N., B.S.N. ..... Family Planning Nurse Practitioner
James Michael, B.S. ..... Sanitarian
Jody Schoeler ..... Secretary
Lorraine Klundt ..... Bookkeeper
Julie Wahl ..... Secretary, Family Planning
Title III Nursing Health Maintenance Staff
Serving McIntosh, Dickey, LaMoure Counties
Margaret Nelson, R.N. ..... Nurse Coordinator
Gertrude Bartle, R.N. ..... Staff Nurse
Crystal Miller ..... Secretary

*Part time

PUBLIC HEALTH PERSONNEL IN COUNTIES AND CITIES OUTSIDE DISTRICT HEALTH DEPARTMENTS
June 30, 1979

COUNTY OR CITY	City and County Health Officer (Part time)	Public Health Nurse	Sanitarian or Other
Barnes	City County Health Department	Erma G. Overby, R.N.	James Michael, Sanitarian
Valley City	P.T. Vangerud, M.D.	Donna M. Nelson, R.N.	Lorraine M. Coffey, Secretary
Burleigh	D.J. Driscoll, M.D.	Jean Norton	
Bismarck	Wm. Buckingham, M.D.	Doris Fischer, R.N., B.S.N.	Jack Hegedus, Dir. of Insp.
		Director of Nursing	Robert Schwishtenberg, Dep.
		Mrs. Donna Bosch, B.S.N.	Dir. of Inspections
		Mrs. Carol Crawford, R.N.	Loren D. Ford, Sanitarian
		Mrs. Mary Dasovick, B.S.N.	Lloyd Arndt, Sanitarian
		Mrs. Laurain Dehlin, B.S.N.	Jon Joersz, Sanitarian
		Mrs. Vida Gorsegner, B.S.N.	William Augustadt, Bldg. Insp.
		Mrs. Deborah Haney, B.S.N.	Kenneth P. Heier, Housing Insp.
		Women's Health Care Spec.	Carrie Grossman, Admin. Aide
		Mrs. Evelyn Monzelowsky, B.S.N.	Laurie Rowe, Secretary
		Mrs. Lois Wetzel, B.S.N.	
		Mrs. Fran Stecher, B.S.N.	
City of Fargo —			
Cass County	D.H. Lawrence, M.D.	E. Louis Gronlund, Dir.	Goodwin Hoff, B.S., Supervising
		Joyce Laudert, R.N., B.A.	Sanitarian
		Betty Glass, R.N., B.S.	Myron Berglund, B.S., Food
		Marcella Lind, R.N., B.S.	Sanitarian
		Karen Pederson, R.N., B.S.	Richard Brumfield, Rural
		Connie Sundquist, R.N., B.S.	Sanitarian
		Laurie Borth, R.N., B.S.	Ronald Edgeton, Env. San.
		Patricia Butler, R.N., N.P.	Roger Gould, Food Sanitarian
		Judy Erickstad, R.N., B.S.	Donald Lammers, Milk Sanitarian
		Linda Iszler, R.N., B.S.	Lana Lee, B.S., Food & Env. San.
		Kay Kelly, R.N., N.P., B.S.	Joel Young, B.S., Env. San.
		Mary Lavin, R.N., B.S.	A.R. Rosberg, DVM, Meat Inspector
		Grayce Mitchell, R.N., B.S.	Raymond Hubbard, B.S.
		Gail Morlock, R.N., B.S.	Bacteriologist
		Marlene Pankow, R.N., B.S.	Sharon Sorenson, B.S., Med.
		Patricia Peterson, R.N., B.S.	Technologist
		Jean Radtke, R.N., B.S.	
		Richard Shue, R.N., B.S.	
		Kimberly Tyre, R.N., B.S.	
		Judith Ouse, R.N., B.S.	
		Nancy Pfaff, R.N., B.S.	
		Jane Sandsmark, R.N., B.S.	
		Kathleen Toomey, R.N., B.S.	
Casselton	Galen Eash, M.D.		
West Fargo	Roy W. Kulland, M.D.		
Dickey	S. Bhatia, M.D.		
Ellendale	Eugene F. Bolliger, M.D.		
Oakes	S.L. Bhatia, M.D.		
Emmons	W.J. Orchard, Jr., M.D.		
Linton	W.J. Orchard, Jr., M.D.		
Grand Forks	K.G. Vandergon, M.D.	Mrs. Zora Schjeldahl, B.S.N.	Donald Sokolowski, B.S.
		Miss Lois Wahlin, R.N.	Sanitarian
Grand Forks	William T. Powers, M.D.	Mrs. Carroll Murray, Head	Kenneth C. Schultz, San.
		Mrs. Eunice Ebertowski	Executive Officer
		Mrs. Elizabeth Carlson	Wallace Helland, Sanitarian
		Mrs. Helene Arnason	Myron Larson, Sanitarian
Larimore	C.O. Haugen, M.D.		
Northwood	Robert H. DeLano, M.D.		
Griggs	Norman Kester, M.D.	Mrs. Jovone' Mack	
Cooperstown	Norman Kester, M.D.		
McIntosh	Udom Tinsa, M.D.		
Ashley	Udom Tinsa, M.D.		
Nelson	D.A. Iverson, M.D.	Mrs. Lois Curtis	
Pembina	E.J. Larson, M.D.	Mrs. Mary Ellen Sandison	
		Karen Volk	
Cavalier	E.J. Larson, M.D.		
Drayton	Mark Carter, M.D.		
Walhalla	W.M. Goodall, M.D.		
Ransom	Wesley J. Palmer, M.D.	Mrs. Joan Montgomery, R.N.	
		Mrs. Debbie Bergstrom, L.P.N.	
		Mrs. Patricia Olson, L.P.N.	

PUBLIC HEALTH PERSONNEL IN COUNTIES AND CITIES OUTSIDE DISTRICT HEALTH DEPARTMENTS

June 30, 1979

COUNTY OR CITY	City and County Health Officer (Part time)	Public Health Nurse	Sanitarian or Other
Lisbon	A.K. Lewis, M.D.		
Richland	G.L. Wiltse, M.D.	Mrs. Lavonne Rustvang, Dir. Mrs. Helen A. Peterson Mrs. Phyllis Lindberg Mrs. Ione Meyer, L.P.N.	
Hankinson	Mohammad Said, M.D.		
Lidgerwood	Ernest E. Poole, M.D.		
Wahpeton	Paul J. Beithon, M.D.		
Rolette	John Sawchuk, M.D.		
Rolla	Robert Vigessa, M.D.		
Rolette	John Sawchuk, M.D.		
Sargent	Severino R. Rillo, M.D.		
Forman	Severino R. Rillo, M.D.		
Steele	O.D. Dekker, M.D.	Mrs. Helen Hale	
Finley	O.D. Dekker, M.D. G. Hilts, M.D.		
Cando	Peter Marsh, M.D.		
Traill	D.J. Hlavinka, M.D.	Mrs. Agnes Thorstad, B.S.	
Hillsboro	R.W. McLean, M.D.		
Mayville	Glenn M. Thoreson, M.D.		
Walsh	Charles C. Rand, M.D.	Mrs. Cora Kowalski, Dir. Mrs. Debra Flack	
Park River	H.R. Piltingsrud, M.D.		
Grafton	W.P. Teevens, M.D.		
Wells	M.J. Towarnicky, M.D.		
Harvey	L.E. Boyum, M.D.		

STATE OF NORTH DAKOTA

STATE HOSPITAL

JAMESTOWN, NORTH DAKOTA

STATE DEPARTMENT OF HEALTH

FORTY-EIGHTH
BIENNIAL REPORT

For the Period Ending
June 30, 1979

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I. SUPERINTENDENT'S REPORT

Hubert A. Carbone, M.D.

The past biennium has been a period of improvement and intensification of the quality of the various programs of the state hospital in an effort to conform with the ever increasing demands of hospital accreditation bodies and to enhance the services provided despite the fact that there was not a significant increase in the number of personnel. Thus the state hospital continues to be accredited by the Joint Commission on Accreditation of Hospitals and by HEW for Medicare Title XVIII and Medicaide Title XIX.

While the average patient census has remained essentially stable, there has been heightened activity in terms of the increased admission and discharge rates. This factor in addition to the demands imposed by the new procedures mandated by the new commitment law has placed an added burden on all personnel and on professional staff in particular, thereby further underscoring the need for increasing the clinical personnel: patient ratio to maintain appropriate standards of treatment and to deliver high quality direct services.

It is a well established fact that mental illnesses involve all aspects of the person's existence. Therefore the state hospital provides total care consisting of physical, mental, psychological, rehabilitative, social, recreational and spiritual services, provided by a multidisciplinary team under the direction of the psychiatrists and supported by a variety of clinical and non clinical staff. All patients have a carefully organized treatment plan designed for each person's specific and individual needs which is frequently re evaluated by the team in relation to the patient's needs and progress. The goal of the treatment process is to implement appropriate therapeutic modalities at the earliest time so that the period of hospitalization can be reduced to the absolute minimum. This requires integration with a system of after care services in the community which will provide the necessary support so that the individual will be able to make a stable and satisfactory adjustment when he/she leaves the hospital. The hospital works closely with all community agencies on both a programmatic and an individualized basis in all cases in order to maintain this continuity of care and treatment. While much has been accomplished in this regard in recent years, it is still an unfortunate fact that in many areas of the state after care resources are minimum which is a primary factor in the rehospitalization rate. To reach optimum benefits added efforts and fiscal support are needed to continue to improve the hospital programs and to further develop community programs in both prevention and post hospitalization services.

During the past biennium, efforts have continued to improve the hospital environment in order to provide an appropriately therapeutic environment as well as to meet accreditation and safety standards. In this regard we are pleased to report that the new maximum security building is now in construction and will be completed during the present biennium. This building will do much to solve a serious problem that has existed in this hospital for many years. However, there continues to be other obsolete buildings in use which should be replaced for both therapeutic and fiscal reasons and it is hoped that the state legislature will see fit to support the 10-year building plan as previously proposed.

During the past biennium there has been an intensification of staff development and continuing education programs designed to improve skills and to provide higher quality care. In this regard consultation visits from several faculty members from the Department of Neurosciences of the University of North Dakota School of Medicine have been very effective and in addition to the clinical and didactic programs offered they have served to strengthen the existing relationship with the School of Medicine. The State Hospital is committed to play a key role in the recently approved psychiatric residency program to be established at the University of North Dakota School of Medicine.

In summary, the hospital continues to provide high level services to all persons admitted in as a therapeutic environment as possible as demonstrated by the various departmental reports in the following pages.

II. HOSPITAL ADMINISTRATOR'S REPORT
Henry A. Lahaug

During the 1977/79 biennium the volumn of services provided was 429,908 patient days compared to 431,182 patient days for 1975/77.

A table of statistical highlights for biennium since 1885 is shown below:

BIENNIUM	CENSUS	EMPLOYEES	ADMISSION PER BIENNIUM	DISCHARGES PER BIENNIUM	PER DIEM
6/30/1885	58				
6/30/1886	106		118	46	$.54
6/30/1890	221	54	186	121	.80
6/30/1900	383	55	279	226	.42
6/30/1910	653	90	458	354	.50
6/30/1920	1288	197	516	419	.72
6/30/1930	1507	195	587	378	.94
6/30/1940	1928	279	947	838	.74
6/30/1950	2118	299	994	890	1.36
6/30/1952	2096	324	1043	1065	1.57
6/30/1954	2068	461	1139	1167	2.34
6/30/1956	1993	518	1681	1756	2.91
6/30/1958	1814	529	2212	2312	3.49*
6/30/1960	1695	530	2734	2853	5.36
6/30/1962	1738	578	3002	2959	5.87
6/30/1964	1520	627	2794	3012	6.87
6/30/1966	1424	658	2785	2881	7.53
6/30/1968	1208	643	2829	3045	12.09
6/30/1970	906	720	3400	3702	15.55
6/30/1972	674	766	3768	4000	23.23
**6/30/1973	595	714	1975	2054	26.72
6/30/1975	571	751	4636	4672	34.35
6/30/1977	597	779	4723	4697	40.68
6/30/1979	604	739	4750	4743	47.46

*Depreciation not included prior to 1960.
**For one year only.

As of June 30, 1979 the South Central Mental Health and Retardation Center will cease to be supervised by the State Hospital. In the future it will assume a more independent status similar to the other mental health centers, but will continue its relationship with the State Hospital through a cooperative, mutual agreement.

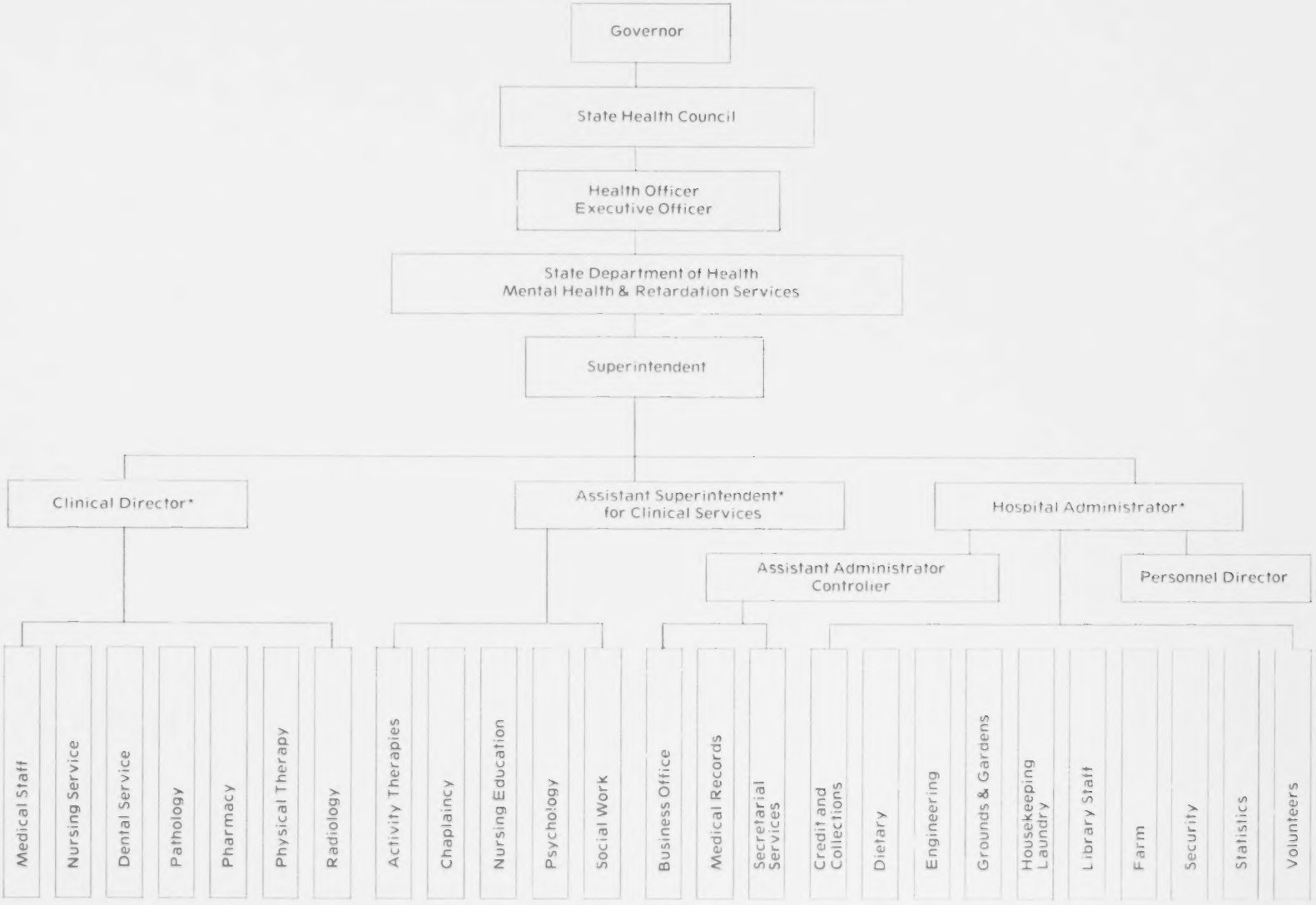
Also, as of June 30, 1979 the third party agreement with the State Vocational Rehabilitation Division of the Social Service Board has been terminated. Through this agreement Federal funds were channeled into the hospital for the operation of an extensive Vocational Rehabilitation program. Part of the program will continue in 1979/81 through exclusive state funding.

Contracts for the new Maximum Security Unit was let in the fall of 1978 at a cost of approximately $1.5 million. The new unit will have 35 beds and is expected to be completed in the fall of 1980.

Almost one million dollars worth of remodeling and improvements to the heating system was completed during the biennium. The projects included replacement of radiators and installation of heat control systems in many buildings. An appropriation of $450,000 for conversion to coal heat by restoring the old coal boilers has not been utilized, but carried over to the 1979/81 biennium. It was concluded that the old boilers would not lend themselves to an economical operation over a longer period of time. Therefore, an additional appropriation of $1,450,000 was granted by the 1979 legislature in order to provide a modern, cost effective plant. Plans are underway to convert to coal heat by the 1980/81 heating season.

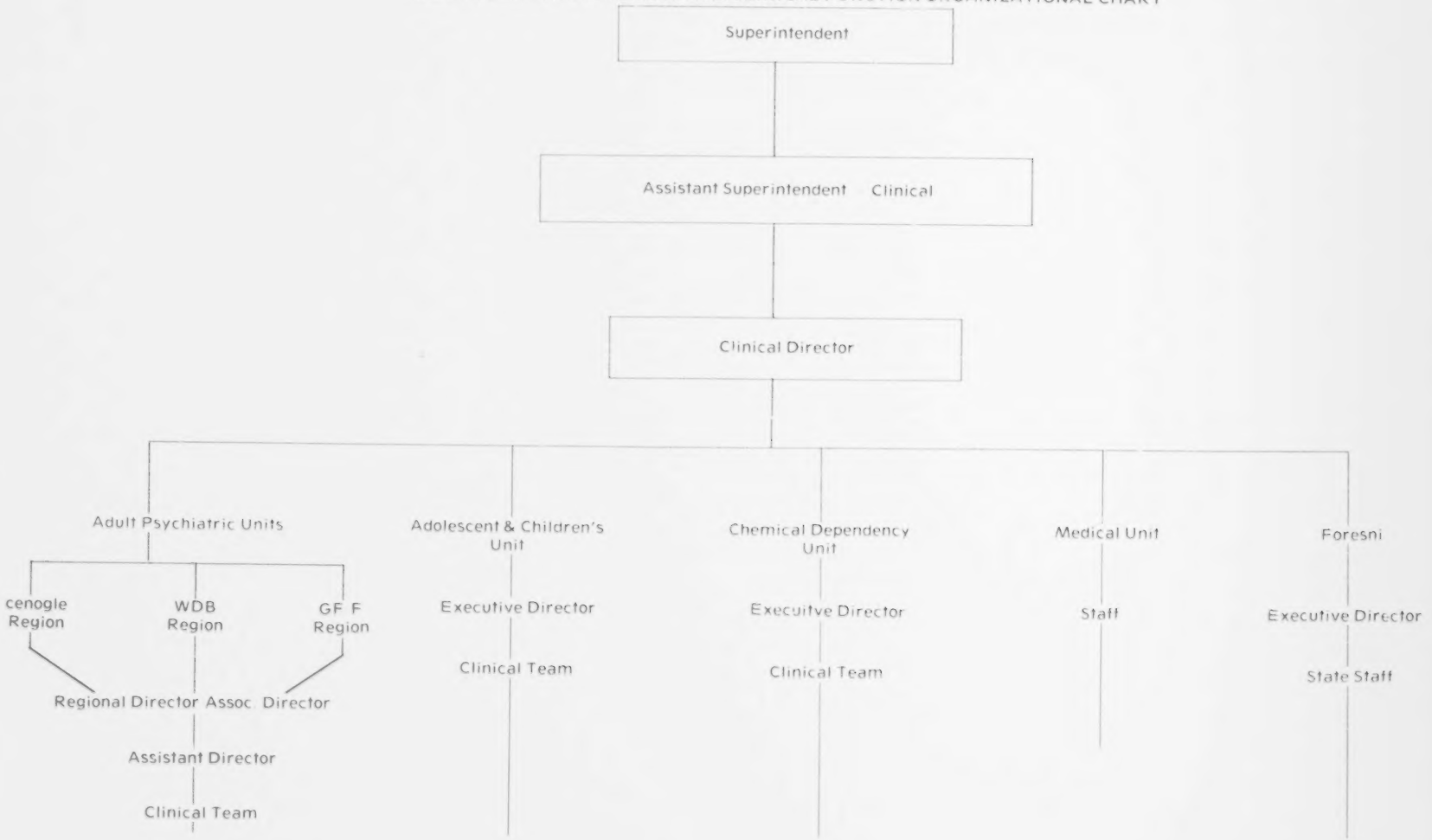
Everyone seems to agree that a long range replacement program of the hospital's obsolescent physical facilities is long overdue. Such a program has been proposed before the last three legislative sessions but so far no action has been taken. Why do we have to wait until the problem becomes acute with resulting deterioration of services?

NORTH DAKOTA STATE HOSPITAL ORGANIZATIONAL CHART



* Administrative and supporting functions are the responsibility of the Hospital Administrator.

NORTH DAKOTA STATE HOSPITAL CLINICAL FUNCTION ORGANIZATIONAL CHART



IV. STATISTICS

Table 1

AGE BREAKDOWN – BY ADMISSIONS AND RETURN CONVALESCENT LEAVES

AGE GROUP	1975-1976	1976-1977	1977-1978	1978-1979
14 or Under	62	64	45	59
15 - 24	490	598	472	555
25 - 34	529	517	526	518
35 - 44	452	413	384	453
45 - 54	407	374	336	390
55 - 64	286	248	190	201
65 - 74	109	108	94	122
75 - 84	35	30	14	30
85 & Over	3	8	2	4
TOTAL ADDITIONS	2373	2360	2063	2332
17 or Under	189	235	169	209
65 or Over	147	146	110	156

Table 2

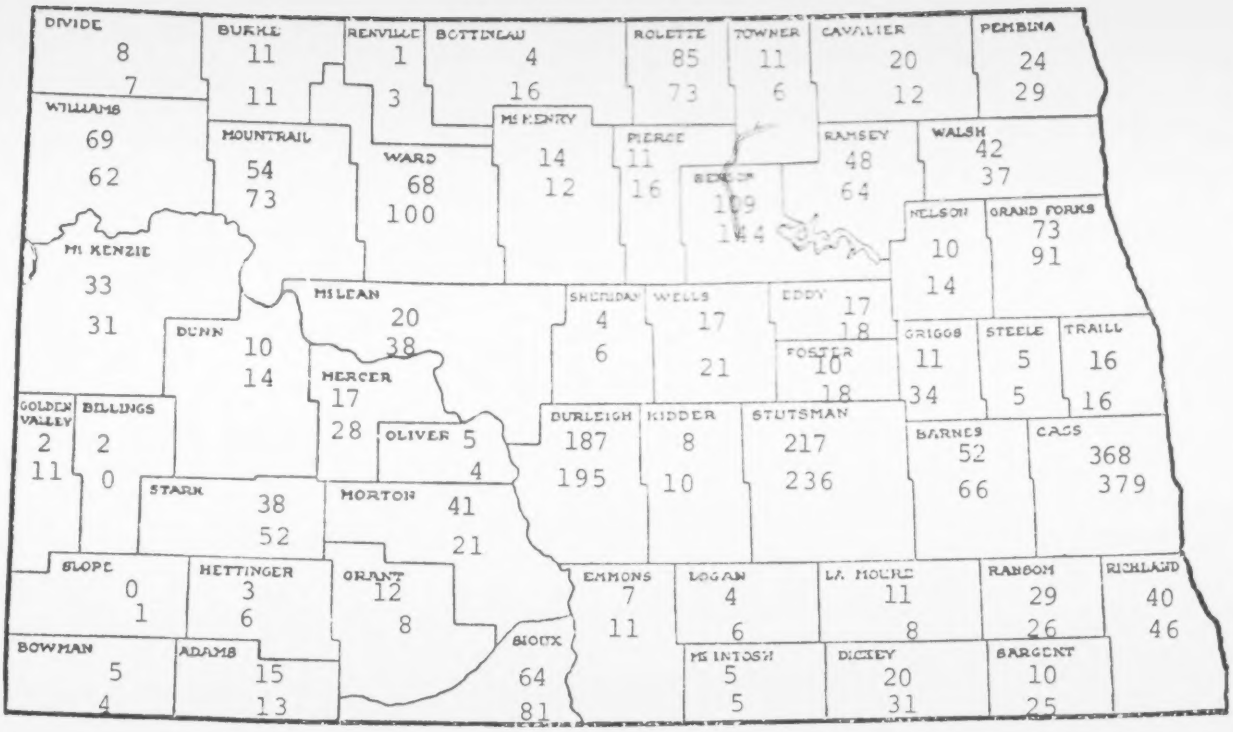
LENGTH OF STAY BY AGE GROUPS
DIRECT DISCHARGES 1978 - 1979

AGE GROUPS	0 - 29 days	30 - 90 days	91 - 182 days	183 - 364 days	1 year less than 2	2 years less than 5	5 years less than 10	10 years less than 20	20 years or more
0 - 14	15	19	8	1	0	0	0	0	0
15 - 24	261	207	28	12	7	2	0	0	0
25 - 34	282	164	38	16	7	0	0	0	0
35 - 44	272	135	18	7	1	1	2	0	0
45 - 54	198	125	27	14	6	1	0	0	0
55 - 64	94	64	16	2	4	3	1	1	0
65 - 74	36	45	9	8	1	6	0	1	0
75 - 84	6	7	3	1	0	2	1	0	0
85 and Over	0	1	0	0	0	0	0	0	0
TOTAL	1164	767	147	61	26	15	4	2	0

Table 3
MOVEMENT OF POPULATION

ADDITIONS TO HOSPITAL DURING THE YEAR	1977 1978 MALE	FEMALE	TOTAL	1978 1979 MALE	FEMALE	TOTAL
Resident in Hospital beginning of year						
Inpatient	324	257	581	330	248	578
Partial Hospitalization	3	0	3	6	1	7
TOTAL RESIDENT POPULATION	327	257	584	336	249	585
First Admissions	598	169	767	611	214	825
Prior Admissions	1026	270	1296	1202	305	1507
Returned from Awol	255	68	323	260	60	320
Returned Awol Partial Hospitalization	7	0	7	9	0	9
Returned from Otherwise Absent	71	32	103	65	43	108
Returned Otherwise Absent Partial Hospitalization	1	0	1	1	0	1
TOTAL ADDITIONS TO HOSPITAL DURING THE YEAR	1958	539	2497	2148	622	2770
REMOVALS FROM HOSPITAL DURING THE YEAR						
Direct Discharges	1505	416	1921	1687	481	2168
Discharge Partial Hospitalization	9	1	10	12	2	14
Transfer to Grafton State School	4	1	5	2	2	4
Deaths in Hospital	12	2	14	10	4	14
Placed on Awol	329	91	420	332	87	419
Placed on Awol Partial Hospitalization	11	1	12	8	0	8
Placed on Otherwise Absent	78	35	113	74	50	124
Placed on Otherwise Absent Partial Hospitalization	1	0	1	1	0	1
TOTAL REMOVALS FROM HOSPITAL	1949	547	2496	2126	626	2752
Inpatient	330	248	578	354	245	599
Partial Hospitalization	6	1	7	4	0	4
TOTAL RESIDENTS IN HOSPITAL AT END OF YEAR	336	249	585	358	245	603
AVERAGE DAILY POPULATION	332	243	575	358	246	604
NET RELEASES	1599	444	2043	1779	517	2296
TOTAL PATIENT DAYS		209, 843			220, 065	

Table 4
ADMISSIONS
by
COUNTY OF LEGAL RESIDENCE



ALL OTHERS	1977 1978	1978 1979
RESIDENTS OF ANOTHER STATE	95	82
ALIEN	1	6
TOTAL	2063	2332

Upper Figures — 1977 1978
Lower Figures — 1978 1979

TABLE 5
RESIDENT POPULATION
by
RELIGIOUS FAITH
(As of June 30, 1979)

None	7
Protestant (not elsewhere classified)	80
Roman Catholic	209
Other than Listed	1
Unknown	12
Adventist	8
Assembly of God, Church of God, Four Square Gospel, Gospel Tabernacle, Pentecostal	5
Baptist	19
Christian Church	2
Christian Science	1
Congregational	10
Episcopalian	5
Evangelical	3
Jehovah Witness	1
Latter Day Saints	4
Lutheran	198
Methodist	18
Moravian	1
Nazarene	1
Presbyterian	18
TOTAL	603

TABLE 6
NUMBER OF ADMISSIONS (INCLUDING READMISSIONS)
DIRECT DISCHARGES AND DEATHS IN THE HOSPITAL
EACH BIENNIUM

	TOTAL ADMISSIONS			DIRECT DISCHARGES			DEATHS IN HOSPITAL		
	M	F	T	M	F	T	M	F	T
1954	692	447	1139	261	81	342	163	108	271
1956	999	682	1681	471	220	691	161	126	287
1958	1332	880	2212	546	383	929	169	133	302
1960	1747	987	2734	712	331	1043	170	143	313
1962	1941	1061	3002	747	229	976	208	119	327
1964	1844	950	2794	771	312	1083	158	94	252
1966	1801	1004	2805	949	536	1485	130	68	198
1968	1849	980	2829	1140	688	1828	119	89	208
1970	1967	894	2861	1316	658	1974	96	73	169
1972	2179	944	3123	1688	773	2461	59	31	90
1974	2475	872	3347	1996	732	2728	36	22	58
1976	2941	1016	3957	2438	822	3260	34	21	55
1978	3175	963	4138	2824	857	3681	29	10	39

TABLE 7
SOUTH CENTRAL MENTAL HEALTH AND RETARDATION CENTER
JAMESTOWN, NORTH DAKOTA

	INPATIENT UNIT	OUTPATIENT UNIT
Patients on Center Rolls as of 6/30/77	13	710
Additions	168	*922
Demissions	160	*848
Patients on Center Rolls as of 6/30/78	21	948
Additions	187	*853
Demissions	185	*882
Patients on Center Rolls as of 6/30/79	23	843

*Outpatient Unit addition and demission figures reflect duplicate count as status changes between units have been included.

STATE HOSPITAL
JAMESTOWN, NORTH DAKOTA

SUMMARY REPORT	SOUTH CENTRAL INPATIENT			FISCAL YEAR 1978 1979 STATE HOSPITAL		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Inpatient Population				330	248	578
Partial Hospitalization				6	1	7
TOTAL RESIDENT POPULATION	10	11	21	336	249	585
On Awol				21	4	25
On Awol - PH				2	0	2
On Otherwise Absent				1	0	1
TOTAL ON BOOKS (Beginning of Period)				360	253	613
No Prior Admissions	54	24	78	611	214	825
Prior Admissions	40	55	95	1202	305	1507
TOTAL ADMISSIONS	94	79	173	1813	519	2332
Returned from Awol	9	2	11	260	60	320
Returned from Awol - PH				9	0	9
Returned from Otherwise Absent	3	0	3	65	43	108
Returned from Otherwise Absent - PH				1	0	1
ENTERED HOSPITAL	106	81	187	2148	622	2770
Status Change - PH to Inpatient				15	1	16
Status Change - Inpatient to PH				24	2	26
Direct Discharges	90	76	166	1687	481	2168
Discharges, Partial Hospitalization				12	2	14
Discharges, Grafton State School				2	2	4
Placed on Awol	12	3	15	332	87	419
Placed on Awol - PH				8	0	8
Placed on Otherwise Absent	3	0	3	74	50	124
Placed on Otherwise Absent - PH				1	0	1
Expired in Hospital	1	0	1	10	4	14
LEFT HOSPITAL	106	79	185	2126	626	2752
Discharged from Awol	1	1	2	72	24	96
Discharged from Otherwise Absent				5	5	10
TOTAL DISCHARGED	91	77	168	1778	514	2292
Expired on Awol				1	1	2
Expired on Otherwise Absent				4	1	5
TOTAL DEATHS	1	0	1	15	6	21
TOTAL SEPARATIONS	92	77	169	1793	520	2313
Inpatient Population	10	13	23	354	245	599
Partial Hospitalization				4	0	4
TOTAL RESIDENT POPULATION	10	13	23	358	245	603
On Awol	2	0	2	20	6	26
On Awol - PH				1	0	1
On Otherwise Absent				1	1	2
TOTAL ON BOOKS (End of Period)	12	13	25	380	252	632
AVERAGE DAILY POPULATION	8	7	15	358	246	604
PATIENT DAYS		5419			220,625	
60 CENTER PATIENTS TRANSFERRED TO STATE HOSPITAL						

V. PERSONNEL DEPARTMENT

Nadine Wilkinson, Personnel Director

The Personnel Department functions as a staff department. The staff of two consists of a Personnel Officer III and a Personnel Assistant.

The main functions of the department are to plan and develop a personnel program for the welfare and security of all employees; and establish methods and procedures for its uniform and fair administration; to recruit, interview, and screen applicants; to process and keep personnel and pay records; to process and keep records of various benefits such as hospital, medical, life insurance, unemployment compensation, workmen's compensation, retirement, etc.; to cooperate with department heads for job analysis, job classifications, performance appraisals, and job assignments; to orient new employees; to maintain a written manual on personnel policies; to maintain a budgeted position control system; and to communicate policies, procedures and benefits to all personnel.

A new numbering system for budgeted positions was set up on July 1, 1978; and some renumbering done on July 1, 1979.

During the first year of the biennium the Vocational Rehabilitation Grant positions were reduced from 43½ to 20; 18½ going to Chemical Dependency Unit and 5 going to Activity Therapies; and on June 30, 1979 thirteen of the remaining 20 Vocational Rehabilitation positions were transferred to Activity Therapies and seven positions were deleted. There were a few other transfers from one department to another in the biennium.

On June 30, 1979 the South Central Mental Health and Retardation Center was separated from the State Hospital.

Salaries were adjusted on July 1, 1977 by 5%, and again on July 1, 1978 by 5%. The starting salary for Mental Health Technicians for the biennium was $573 per month with a 6 month probationary raise to $610.

Salaries were adjusted for Nursing Service staff with seniority on July 1, 1977, and again on July 1, 1978, giving them a 10% increase each year.

Some clerical, dietary, laundry and housekeeping employees were given longevity raises in both years of biennium as an effort was made to raise salaries of the lower classification grades.

As Central Personnel raised the classification grade for most positions each year, we find many of the employees staying in same step of their grade much to their chagrin. A concerted effort should be made in next biennium to alleviate this situation.

The hospital has continued to take part in CETA (Comprehensive Education and Training Act); and Work Study programs with the University of North Dakota and Jamestown College. The CETA program has been very helpful to the hospital and to the employees who were involved as many were retained as permanent employees.

Labor turnover increase by 4.37% this past biennium after decreasing significantly since 1974. Nursing Service, clerical, dietary, and the medical staff account for largest turnover.

The budgeted positions for each department and the positions filled as of June 30, 1979:

DEPARTMENT	Number of Positions	Positions Filled
Administration	5	5
Personnel	2	2
Business	33	31
Credit & Collections	7	7
Dietary	50	50
Housekeeping & Laundry	33	32
Engineering	34	34
Farm	11	10
Grounds	7	7
Security	4	3
Nursing Service	374	358½
Medical Staff	16	14
Pharmacy	3	3
X Ray	3	3
Physiotherapy	2	2
Laboratory	4	4
Dental	1	1
Medical Record	10	10
Statistics	3	3
Library	3	3
Social Work	12	11
Chemical Dependency Unit	43	40
Chapliancy	7	5
Psychology	9	8
Activity Therapies	45	41
Nursing Education	8	7
Adolescent School	1	1
Volunteers	2	2
TOTAL STATE	732	697½
GRANTS		
Adult Education	3	3
Library	2	2
Title I	2	1
CETA	10	9
TOTAL GRANTS	17	15
GRAND TOTAL	749	712½

PERSONNEL REPORT FOR THE PERIOD July 1, 1977 to June 30, 1978

Number of employees on Payroll July 1, 1977		728
Number of employees on Payroll June 30, 1978		752
Number of employees hired during the year		203
Number of employees separated during the year		179
Resign	150	
Discharge	7	
Retire	21	
Death	1	
Total	179	

PERSONNEL REPORT FOR THE PERIOD July 1, 1978 to June 30, 1979

Number of employees on Payroll July 1, 1978		752
Number of employees on Payroll June 30, 1979		712½
Number of employees hired during the year		218
Number of employees separated during the year		257½
Resign	200	
Discharge	8	
Retire	9	
Death	2½	
Transfer	38	
Total	257½	

COMPARISON OF LABOR TURNOVER FOR THE FOLLOWING YEARS AS FOLLOWS:

1964 1965 ..... 20.33%	1069 1970 ..... 35.19%	1974 1975 ..... 34.04%
1965 1966 ..... 18.86%	1970 1971 ..... 33.91%	1975 1976 ..... 34.77%
1966 1967 ..... 21.58%	1971 1972 ..... 33.25%	1976 1977 ..... 25.61%
1967 1968 ..... 22.55%	1972 1973 ..... 32.02%	1977 1978 ..... 24.19%
1968 1969 ..... 27.99%	1973 1974 ..... 38.03%	1978 1979 ..... 29.98%

VI. THERAPEUTIC SERVICES

a. Medical Staff

Syed Q. Rashid, M.D., Clinical Director

The medical staff consists of 16 physicians, including two board certified psychiatrists, four board eligible psychiatrists, and five physicians who have completed residency training in psychiatry. They are assigned to the various treatment units of the hospital and assume total responsibility for the physical health of all patients. The board eligible psychiatrists function as unit chiefs in the psychiatric units and are responsible for each unit treatment program, although the whole medical staff function is in conjunction with the multi disciplinary team so that the individual treatment plan is the result of input from all professional disciplines thereby providing the patient a comprehensive treatment and rehabilitation program.

There is difficulty in recruiting board certified psychiatrists and we have to depend heaviliy on foreign medical graduates. However at this time we have a good number of physicians who are training in psychiatry and every effort is being made to offer the best care and treatment to those hospitalized in the state hospital.

As a result of the nationwide and statewide shortages of psychiatrists every effort should be made to provide competitive salaries and benefits in order to recruit and maintain an adequate staff.

b. Radiology

Gerald Guthmiller, R.T. (American Registry of Radiologic Technologists)

The Radiology Department is staffed by a registered technologist, an assistant technician, and a secretary.

The Radiology Department is responsible for administering general radiographic, electrocardiographic (EKG) and electroencephalographic (EEG) examinations to patients upon a staff physician's request.

All X rays are interpreted by a consultant radiologist. Other consultants include neurologists for the interpretation of electroencephalograms and internists for the interpretation of electrocardiograms.

In addition to the radiology services administered to the patients, all new employees are required to have a chest X ray and annually thereafter.

Number of procedures performed in the 2 year period ending June 30, 1979.

X rays	8,252
Electrocardiograms	988
Electroencephalograms	379

c. Podiatry Services

Doctors Harris and Anderson, Podiatrists

The Podiatry Section of the State Hospital offers complete foot care for the patient. This care includes medical, orthopedic, mechanical and minor surgical relief of foot ills.

d. Pharmacy Service

Douglas E. Larson, R.Ph., Director

The main function of the State Hospital pharmacy is to provide medications for the patients of the hospital. A centralized system of drug distribution is utilized. Although this system is somewhat outmoded, funds are not available for a more efficient and progressive system — such as decentralized or unit dose.

With the advent of more and stricter Federal regulations governing prescription medications, more emphasis has been placed on the monitoring of drugs used in the 27 satellite areas as well as in the main dispensary. The shelf-like of drugs must be closely checked. Medications not used in the satellite areas within three months must be returned to the pharmacy for proper evaluation. They either are credited to general inventory, re-distributed to other areas or returned to the vendor for credit. This monitoring of drugs is necessary to maintain an adequate inventory turnover rate. With the rising cost of medications close regulation of the inventory is mandatory.

Another means by which costs are kept at a minimum is by the use of generic drugs rather than brand-name drugs. Generic drugs which are bought from reputable companies contain the same chemical ingredient (ingredients) as the brand-name drugs, but the cost is lower. When dispensing a generic drug it is labeled with both the generic name and the more common brand name. The label also contains a statement pertaining to the therapeutic equivalence.

A final means by which costs are kept within the budget is dependent upon use of the State Hospital Formulary. Drugs stocked in the main dispensary are listed in the formulary. Duplication of drugs is kept at a minimum. Non-formulary medications proposed for use in the hospital must be reviewed by the Pharmacy and Therapeutics Committee. If a drug seems worthy of evaluation, a specific area is selected for the evaluation and a specific medical doctor (doctors) is assigned to the study. The pharmaceutical company which manufacturers the drug supplies it on a complimentary basis. If the evaluation supports use of the drug in the State Hospital it then is placed in the Hospital Formulary.

The State Hospital Pharmacy works closely with the School of Pharmacy at North Dakota State University in Fargo, North Dakota. It provides training for Pharmacy interns and externs who are in their fourth or fifth year of college.

The Pharmacy maintains a compatible relationship with Staff Development, Nursing Service and Medical Staff. It assists with pharmacy education when possible.

e. Vocational Rehabilitation

Stephen R. Scheidel

The Vocational Rehabilitation Project provides to the client population of the State Hospital a broad range of Vocational Rehabilitation services, including counseling, evaluation, work adjustment, independent living training, skills instruction, placement, and referral of clients to other agencies and rehabilitation facilities.

The project, in conjunction with hospital resources, represents a programmed effort to assist patients in achieving significant vocational adjustment consistent with his or her vocational potential. The Rehabilitation Project, by its early evaluation and intervention, helps the patient towards an early personal adjustment and help avoid the development of chronicity. For those individuals who were traditionally referred to as non productive, this program assists them in motivation towards their highest level of productivity. The Vocational Rehabilitation Project helps to establish and develop relationships between the Project and the many community and private agencies around the state for the purpose of a more appropriate placement of the client and to provide the community agencies and employers with a greater background and insight regarding the client's abilities and needs.

The Project is primarily concerned with the evaluation and development of skills required for work performance and in placement of its clients into the labor market.

The Vocational Rehabilitation Project serves as a coordinating agent for the client, the employer, the hospital, community services, and family members during the rehabilitation process.

In the biennium of fiscal 1978 and fiscal 1979 approximately 1,500 people received assistance through the Vocational Rehabilitation Project. The ultimate goal of the Vocational Rehabilitatin Project is the restoration of the vocational and social potentials of its clients to provide attainment of useful and productive roles in the community.

f.1. Adolescent Center
W.F. Steinman, Ph.D., Executive Director

During the past biennium it has become apparent that the comprehensive mental health program pursued throughout the state over the years is having a noticeable effect on the functioning of the Adolescent Center. The admission rate to the Center has remained approximately the same as in the preceeding biennium, due to part to a more extensive and effective system of evaluation and treatment in the local communities in conjunction with better coordination with the Center staff. The Center staff work closely with parents, community mental health workers and schools and serve as resource people to explore all the alternatives to hospitalization prior to admission. This in turn has prevented the unnecessary hospitalization of boys and girls with its inevitable disruption of their normal growth and development. If, however, hospitalization is indicated, the Center staff is better prepared to meet the specific treatment needs of the patient and his family as a result of this preliminary involvement.

Another positive effect is the increasing availability of appropriate after care for the patient and his family upon discharge. This is reflected in both shorter periods of hospitalization for many of our patients and a reduced number of readmissions. As a result of our continuing cooperating with community resources at all stages of the child's progress the concept of continuity of care has been more nearly realized than ever before.

The Adolescent Center, along with the rest of the State Hospital and other treatment facilities, has been increasingly evaluated by various governmental and professional organizations to ensure that it meets acceptable standards of care for its patients. With the active support of the hospital administration and the dedicated effort of the staff the Center has successfully met the rather stringent requirements for approved care for children and adolescents.

The Center's clinical staff has been augmented by the addition of a child psychiatrist, Dr. J. Kerbeshian of Grand Forks, to our group of consultants. Dr. Kerbeshian spends two day a month at the Center and participates in a variety of diagnostic, treatment, and inservice conferences and activities.

During the past biennium the Center lost the service of its part time Vocational Rehabilitation counselor. This was unfortunate because at any given time a number of our patients are in need of pre vocational counseling and evaluation in anticipation of entering the labor market instead of continuing their academic education. This is particularly true of those patients who are intellectually limited or have other serious handicaps which significantly interfere with their achievement in a normal academic setting. It is hoped that at some time in the future at least part of this pre vocational preparation can be accomplished by our educational staff but as yet there is no financial provision for this.

f.2 ADOLESCENT CENTER — Educational Division
Harley H. Trefz, M.Ed., Director

The school program has continued to grow during the past biennium. We continue to be flexible and respond to variables such as changes in the treatment needs of the patient, new state and federal education laws and a less static population.

We have individualized our programming more than it was in the previous biennium by initiating more frequent patient reviews with the education staff and through specific individual education programs with regular input from the sending school district. The correlation of the education program with the treatment plan has become a smooth and complete marriage; thus creating an effective system where the patient is dealt with in a very consistent way throughout the treatment process.

We have expanded the high interest hands on areas from those reported in the past biennium to include other life skills areas such as a geriatric remotivation program and a community store. Both programs were tied into the academic classes and conducted by the students with supervision from teachers. The education program for severely disturbed autistic-like students has grown into a complete part of the regular school program and is being modeled in community based education programs. The pilot that had been conducted during the past biennium for educating patients who are using drugs and alcohol has also become a regular class as part of our Social Studies and Values Clarification course work. Both of these programs are now fully integrated and no longer identifiable as separate from the total school program.

We completed a pilot program in the last school year of the biennium that was designed to program for the growing number of developmentally disabled patients. This pilot used temporary Federal funds to hire a teacher whose responsibility was to design individual curriculum and to help integrate these students in the mainstream of our education program. This pilot also began the design of pre-vocational skill courses and vocational task oriented curriculum. We hope to acquire sufficient funds in that coming biennium to continue the development of this program since it is a need of many of our patients.

The school program continues its relationship with the Jamestown Public Schools. We have added one additional teacher and hope to add three professionals in this first year of the biennium. We have increased our involvement in special education statewide to foster additional community based programs by consulting with directors of special education and through the adolescent center school staff involvement in professional organizations such as Council for Exceptional Children.

The school staff also works closely with local schools to establish education plans that will provide a smooth transition through the treatment process and into the return to the home school.

g. Pathology Department
G.J. Obert, M.D., Consultant Pathologist
Shirley Seher, M.T., B.S., A.S.C.P.

The laboratory staff consists of a consultant pathologist, a medical technologist supervisor, laboratory technician III, a part-time laboratory technician II and a laboratory helper.

The laboratory purchased a new IL flame photometer which increased electrolyte and lithium determination output, and in the hematology department an automated cell counter greatly increased the efficiency of the department.

Statistical Data:

Division	Number of Tests	% of Tests per cost area	
Hematology	41,619	Chemical Dependency Unit	35%
Chemistry	39,537	Adolescent Knit	3%
Coagulation study	540	Intensive Care	10%
Urinalysis	7,048	Acute Medical Unit	6%
Bacteriology	4,491	Other Care Units	10%
Serology	4,481	Geriactric Unit	5%
Cytology	630	Center	2%
Parasitology	130	Special Treatment Unit	1%
Miscellaneous	386	*Miscellaneous	28%
Autopsies	18		

*Consists of quality control

The laboratory has participated in the DADE Quality Control Program and the College of American Pathologists Quality Evaluation Program and has maintained acceptable quality performance.

The department head is a member of the Infection Control committee and works with the Staff Development department with inservice education. The members of the department have participated in continued education programs whenever possible.

NURSING SERVICE
ROBERT W. LORITZ, R. N., M. N., DIRECTOR

The Nursing Service Department consists of 386 personnel, including one Associate and seven Assistant Directors of Nursing. Registered nurses, licensed practical nurses and mental health technicians staff the 26 wards in eight buildings, seven days a week. Nursing Service also staffs Central Service, Admitting and Marking Rooms, and the Staff Development Department.

There are 32 clinical registered nurses on staff. These nurses provide direct professional nursing care to the 600 patients seven days a week, plus supervise the paraprofessional nursing staff. The number of registered nurses is inadequate to provide seven days a week coverage on any of our wards, including the Receiving and Treatment wards. These wards house the sickest patients in the State and are considered the equivalent of intensive care units. The number of registered nurses should be doubled.

Our overall goal continues to be to upgrade the quality of nursing care to patients. Accomplishments to achieve this goal are:

1. Twelve wards have open exit doors all or most of the time. This is five more than the previous biennium.
2. Our goal has been reached to make all possible nursing stations "opened," that is, physical barriers separating staff from patients have been removed from the nursing stations.
3. All patients have lockers or bedside cabinets in which to keep personal belongings.
4. "Psychiatric-Mental Health Nursing Practice" standards published by the American Nurses' Association continue to be guidelines for professional nursing care to patients.
5. Nursing histories are taken on all patients by registered nurses; nursing care plans are developed from this information.
6. Reality Orientation and Remotivation are viable programs on the continuous treatment wards. All levels of nursing staff are actively involved in these therapeutic programs.
7. Nursing staff continue to visit mental health centers and nursing homes in an attempt to decrease the readmission rate of former patients.
8. All wards submitted measurable objectives for six and 12 month periods.
9. All full-time licensed nurses attained the goal of attending 30 hours of appropriate continuing education during 1978.
10. Nursing Service is represented on all hospital committees involved with patient care.
11. Many registered and licensed practical nurses are actively involved in their respective Nurses' Association.
12. Two registered nurses are completing course work towards their Masters degree.
13. One registered nurse is consultant surveyor for the National Institute of Mental Health.
14. One registered nurse has participated in giving workshops outside of North Dakota.
15. Single day, short notice absenteeism rate is steadily decreasing due to counseling and education.
16. Turnover rates during 1977 and 1978 have been the lowest this decade. Exit interviews continue to be done on all terminating employees to further decrease the rate.
17. To promote retention of staff, each new staff member has a formal six week postemployment interview, spends 18 percent of his/her probationary time in class or orientation, and receives ongoing inservice educational classes unique to his/her needs.
18. All nursing staff receive the Red Cross approved First Aid class and the American Heart Association approved Cardiopulmonary Resuscitation class.

i. Department of Nursing Education
Valborg Skorpen, R.N., Director

Nursing Education Programs:

The nine week psychiatric and mental health nursing experience for diploma nursing students was reduced to seven weeks in September, 1978 due to changes in nursing program curriculums in the spending schools.

Following the 1978 summer session, the Dickinson State College nursing department terminated the four-week summer experience provided for their students. They have since found it necessary for their nursing students to have some experience at the State Hospital, and plan to bring students for two weeks beginning in August, 1979.

Short term learning experiences were provided during the biennium for collegiate nursing students from Minot State College and Mary College and AD nursing students from North Dakota State University. In May, 1979, 89 nursing students from Presentation College in Aberdeen came for a concentrated three-day experience in psychiatric nursing.

The Department of Nursing Education worked with the Multidistrict Vocational Education Center in Jamestown to arrange an introduction to psychiatric nursing experience for high school students enrolled in health aide and health occupation courses. Three 5-day sessions were held for these students in 1978 and 1979.

A total of 676 nursing, practical nursing and vocational students were involved in the variety of psychiatric nursing experiences arranged and presented by the Department of Nursing Education during the biennium.

Faculty Activities

A director, an assistant director and three clinical instructors comprised the faculty in the department during the biennium. Two housemothers and the department secretary complete the staff.

Faculty members were active in their professional organizations on state and local levels. One clinical instructor received her degree in vocational education at Moorhead State University in May, 1979; another faculty member continued work toward a master's degree in counselling and guidance from North Dakota State University.

i. DEPARTMENT OF PSYCHOLOGY
A. A. Ismir, Ph.D., Director

I. STAFF

The Department of Psychology consists of nine psychologists. Four Ph.D. clinical psychologists serve as Assistant Directors of the Hospital's psychiatric units while three Ph.D. psychologists serve as Executive Directors of the Adolescent Center, Chemical Dependency Unit and the Forensic Unit. The Director of the department serves also as the Assistant Superintendent-Clinical of the Hospital. In addition, a MA level psychologist and a psychological technician perform psychological testing of patients. Two Ph.D. psychologists terminated employment and two were hired during the biennium.

II. TRAINING AND EDUCATION

Dr. Ismir served as Chairman of the Hospital Training, Education, Research and Human Rights Committees. The Committees met monthly and developed, integrated and coordinated the training, education, research and patients rights in the Hospital. The Committee reviewed and established policies, procedures and programs for training of students and hospital staff in the various departments.

The department psychologists served as resource people, lecturers to several programs including nursing affiliations, vocational rehabilitation, activity therapy, alcoholism, chaplaincy and several colleges, nursing homes and community agencies in the State. The department has established in cooperation with Jamestown College a four year program in counseling. The Hospital provides the internship experience for the college students.

III. DIRECT SERVICES TO PATIENTS

Psychologists are directly involved with the diagnostic, treatment and follow up care of patients. Individual and group therapy is carried out by all psychologists. Four hundred and twenty five patients (425) were given complete psychological evaluations. A total of 2,499 tests were administered during the biennium. Four hundred and thirty four (434) patients were seen in individual therapy. Six hundred and eighty two (682) individual therapy sessions were conducted. A total of 376 group therapy sessions were conducted with 859 patients participating.

IV. WARD PROGRAMS

Staff of the Department of Psychology were instrumental in the development of the following programs:

1. Behavior modification programs for chronic patients.
2. Group therapy services.
3. Consolidation of the Problem Oriented Medical Records System and development of a POMR manual.
4. Establishment of the patient coordinator program.
5. Development of a procedural manual of the Mental Health Commitment Law.
6. Direct training and supervision of staff conducting individual and group therapy.
7. Increased visitation to and communication with the state Mental Health Centers.
8. Increased involvement with the Court as expert witnesses.
9. Teaching of courses in psychology and conducting seminars and workshops.
10. Assisting in the research program of the Hospital.

k. Social Work Department
Dean C. Engebrecht, ACSW, Director

The Social Work Department currently has 10 social workers and one secretary. Six social workers are assigned to the adult psychiatric units, two social workers are assigned to the Adolescent Unit, one social worker is assigned to the Medical Center Unit and coordinates placement of patients in alternative care facilities. The Assistant Director of the Social Work Department, Mr. Ray Berndt, is assigned to the Special Treatment Ward and functions as the Deputy Interstate Compact Administrator for the North Dakota State Hospital.

DIRECT SERVICES TO PATIENTS:

1. The provision of release planning for patients to provide the most appropriate supportive services for patients as they are discharged from the hospital.
2. The assessment and compilation of Social History information for use in release planning and treatment planning.
3. The provision of direct treatment services including individual, group, family and marital treatment to patients and their families.
4. The provision of consultation to community agencies, groups and individuals regarding services to hospital patients.
5. The provision of assistance in the development of hospital programs.

INSERVICE EDUCATION:

Staff members are encouraged to make use of inservice education opportunities within the hospital and in workshops offered both in the State and occasionally out of state. Inservice education has concentrated in the area of group therapy with a member of the hospital Psychology Department leading the group.

COMMUNITY COORDINATION:

During the biennium emphasis has been placed in the area of coordinating the provision of continuity of care and treatment for patients as they return to their communities. Efforts have been made by phone as well as by visits of hospital social work staff to improve the provision of continuity of services for patients. Staff in the partial care programs and the various Mental Health Centers and Human Service Centers have provided hospital social workers with detailed descriptions of their programs.

l. Physical Therapy
Jess Hetherington, Consultant Therapist
Margaret Stroh, Assistant Therapist

The Physical Therapy Department is located in the medical center, which functions as the general hospital of the institution. Standards for mental hospitals are set by the American Psychiatric Association. In 1953 it was recommended that a Physical Therapy Department be organized and operated to provide such needed service as the following:

1. Various types of heat, light and sound treatments for the relief of pain.
2. Various diagnostic tests and measurements.
3. Instruction and assistance in the use of crutches, braces, and other orthopedic appliances.
4. Guidance in general walking practices for the tonic physiological effect.
5. Palliative massage and baths for their physiological and psychogenic effects.

The physician prescribes the treatment and the physical therapy personnel carries out the prescribed treatment.

m. CHEMICAL DEPENDENCY UNIT
Brian A. Middleton, Ph.D., Clinical Director

The goal of the Chemical Dependency Unit is to assist the chemically dependent person in achieving a meaningful and lasting sobriety. In the continuing effort toward this goal a variety of treatment approaches and programs are employed in the Chemical Dependency Unit.

In addition to the Admission Unit, there are four adult treatment units in the CDU. Two of these units are structured with a variety of services for patients who require a relatively intense program extending over a period of several weeks. Group and in-

dividual counseling, family therapy, and educational presentations are emphasized in these programs. An important part of the CDU treatment philosophy is that a multi disciplinary approach to problems of the chemically dependent person is most beneficial.

The third adult unit is the Continuous Care Program. This program is geared for the older, more chronic, and more severely disabled patient for whom the average length of stay is longer and placement in the community is more difficult. A full range of treatment services is offered in this program with special emphasis on learning social, vocational and self help skills.

The Partial Hospitalization program is specifically designed for patients who have completed the regular treatment program and are working in the community. This program provides the support and structure needed by some patients prior to independent living in the community. Patients in this program reimburse the hospital for room and board.

The Youth Unit of the CDU is a treatment program designed for chemically dependent young people between the ages of 14 and 22. The treatment program is co educational and is designed for young people who have abused aicohol and/or other drugs. Treatment on the Youth Unit involves offering the opportunity for a group of young people to grow together by sharing feelings, by developing self awareness, by offering genuine support and concern for each other, and by experiencing alternatives to the drug experience. There are 15 full time staff members on the Youth Unit who provide therapeutic services to the residents. In addition, therapeutic services on a part time basis are provided by staff members from the adult segment of the program.

The family members of patients are strongly encouraged to participate in the treatment program whenever possible. Once each month a 3 day family program is conducted in the adult unit program. Family members are involved in lectures, films and groups and conjoint therapy sessions. In addition each month a 4 day family program is conducted on the Youth Unit.

Special addiction programming is conducted by two CDU staff members for patients on the psychiatric units of the hospital who also have serious addiction problems. These patients continue to reside on the psychiatric ward, but are involved in group and individual therapy, discussions, and lectures concerning addiction.

Alcoholics Anonymous is a very effective source of support for chemically dependent people who leave the hospital tratment program. Staff of the CDU maintain an active working relationship with Alcoholics Anonymous groups around the state. Involvement in the fellowship of Alcoholics Anonymous is essential for many alcoholics in maintaining sobriety. Each Saturday night Alcoholics Anonymous meetings are conducted in the Chemical Dependency Unit by groups from around the state and patients are strongly encouraged to attend Alcoholics Anonymous meetings in downtown Jamestown during the week.

Antabuse continues to be an important part of the treatment program. Continued use of this drug after release from the hospital is encouraged, and Antabuse is, for many, an effective deterrent to impulsive drinking. When taking this medication the alcoholic cannot drink with impunity, and consequently has time to seek help or to work out his problems without the use of alcohol.

The CDU continues to train new addiction counselors on an ongoing basis. Contracts are maintained with North Dakota State University and Jamestown College whereby the CDU provides a supervised training experience for students who have completed the academic requirements for certification as addiction counselors in the State.

On the average, four patients are admitted to the CDU each day. Approximately 1500 patients are admitted each year and the average length of stay is four to five weeks.

ACTIVITY THERAPIES

J. Gary Ingenthron, Director

Department

The Activity Therapies Department, North Dakota State Hospital provides through its staff complement and facilities, services and activity experiences that are used as vehicles for identifiable behavioral change in patients. The major roles in B77-79 of the Department were seen as: 1) The provision of therapeutic intervention to stimulate change of behavior within identified individual patients as requested by unitized Treatment Teams; 2) The provision of barbering and cosmetology services for all patients in the hospital; 3) The provision of work training and work experience for patients while in the hospital; and, 4) The provision of an array of structured activity experiences for all patients during their hours outside of the daily treatment routine.

Occupational Therapy

During B77 79 four new occupational therapy staff were hired — one registered occupational therapist, and three certified occupational therapy assistants.

Referred in this period were 1,673 patients for therapeutic programs in occupational therapy. Highlights of involvement in the three major divisions of the hospital where occupational therapy staff were assigned follows:

Adult Psychiatric Region —

Increased client services: this biennium has seen an increase in the number of clients involved in programs, due to having a full staff complement in each region and an emphasis on block scheduling, increasing referrals per therapist.

Evaluative services: staff have been developing and implementing on going evaluation procedures for clients as referred by the Treatment Team, the results of which are used to improve individual treatment planning for clients.

Special activities: special interest programs and mini courses were made more available to clients during the discretionary time periods. In some cases, such as the puppetry programs, this allowed clients to be integrally involved in extensive planning, preparation, and presentation, both in the hospital and in the larger community.

Improved quality of services: staff worked together more in inservice/program development to work toward a more cohesive approach to occupational therapy adult psychiatric programs, using available staff and literature resources. Occupational therapy staff sponsored a Movement Therapy Workshop presented in the hospital in November of 1978 by Ms. Billie Logan, Dance Therapist from Minneapolis. Sixty five hospital staff members participated in the day long workshop.

Consulting services: staff increased their involvement with members of the Nursing Service staff, assisting in the evaluation, planning and development of special referred individual, groups, or total ward activity programs.

Student program: the student fieldwork program was expanded to include opportunities for students from the University of Minnesota and the College of St. Catherine's in St. Paul to complete fieldwork requirements at this facility.

Chemical Dependency Unit

During the B77 79, the Chemical Dependency Unit occupational therapy staff worked more closely with other staff as members of the same department, increasing their input and involvement in staff in service/meetings. In addition chemical Dependency Unit staff increased their clients' involvement in all hospital special activities programs.

The addition of a full time occupational therapy assistant in the Chemical Dependency Unit allowed increased involvement with the Treatment Teams on a regular basis, more effective programming for large numbers of clients and more specific treatment planning and Medical Records documentation.

Medical Center —

During the B77-79, programs in the Medical Center were expanded to emphasize treatment in the areas of physical disabilities and Sensory Integration. Nursing Service staff were involved in the treatment planning and implementation of these programs, with consultance/in services provided by the occupational therapy staff.

Staff worked with clinical nurses to establish Speech and Hearing evaluations and treatment services for Medical Center clients, and worked with placement coordinators to insure that occupational therapy programs were focused on meeting the priority needs of the clients.

Special activities involvement was increased for Medical Center clients. These activities included those held on an all hospital basis, and special guests/programs held within the Medical Center Unit.

Special Services

In the Special Services area of the department four new employees were added during the biennial period – two certified instructors in Adult Education, one licensed beautician and one part time library technician. Data showing progress in each of the Special Services programs follows:

a. Upholstery Shop

Total clients evaluated	7
Total clients on Work Adjustment	1
Total number items repaired	641
Total number new items built	722

b. Industrial Shop

Total clients evaluated	66
Total clients on Work Adjustment	18
Total number items repaired	973
Total number new items built	680

c. Print Shop

Total clients evaluated	2
Total number sheets printed	2,000,742
Total number plastic signs engraved	572

d. Patient Employment Program

Total number hours worked by clients in Hospital industry	115,512
Total amount paid clients	$199,669.89

e. Barber Shop

Total number direct grooming services provided male population	8,642

f. Beauty Shop

Total number direct grooming services provided female population	25,559

g. Adult Basic Education

Total number clients referred to Adult Basic Education	648
Total Number clients passing Graduate Equivalency Diploma	27
Total classroom hours spent with clients	22,934

h. Resident Libraries

Total number clients referred to special groups	70
Total books & paperbacks checked out by clients	7,740
Total periodicals & magazines used by clients	7,436
Total number clients using phonograph listening facilities	8,640
Total number times Library staff assist clients in using library services	102,000
Total number clients in work evaluation in the Library	9
Total number films provided for client and staff use	2,550

Client usage of Library services has grown a great deal. Special Programs have grown with the Librarian attending team meetings.

Audio Visual Program has expanded with both staff and clients making requests.

Therapeutic Recreation

Three positions in Therapeutic Recreation staff saw turnover in this biennial period and one position was added to increase the delivery of services on the Special Treatment Ward (Forensic Unit). Hired in these four vacancies were two baccalaureate level recreators and two master's level therapeutic recreation specialists. During the two year period 1,477 therapeutic referrals were received in this area and special activity participation numbers for the same time were over 15,000.

Additionally, part time staff, Comprehensive Employment Training Act personnel and Work Student students were acquired to increase the program delivery during the two summers and on weekends.

Two students from the Pennsylvania State University and one from Northern College came to the hospital during the period for training in therapeutic recreation as this portion of the program expanded.

o. Dental Department

A. A. Schmeiss, D.D.S.

The Dental Department has three well equipped operatories. All essential dentistry is provided by a staff consisting of one dentist and one full time dental assistant.

p. Chaplaincy Department
Albin G. Sherve, Director

The Chaplaincy Department has as its functions: to provide for the spiritual and religious needs of the patients; to provide religious and non-religious counseling to patients; to act as liaison between the hospital and church organizations and pastors within the State; to provide education for pastors in the field of mental health and mental illness; to provide information to clergy regarding making referrals of the mentally ill; and to provide specialty training for clergymen entering the health care field.

Religious Services

Regular Sunday services are held for Catholic and Protestant patients. About 130 Protestant patients attend each service and about 45 receive communion. An average of 120 Catholic patients attend Mass each Sunday. Daily Mass is held regularly for the Catholics. A midweek hymn sing and devotional service is held weekly for all patients.

Chaplains as Team Members

A Chaplain or Chaplain intern is assigned to each of the regions or units. These chaplains are responsible to the team with which he works. A chaplain sees each new patient within the first three days of his admission as a general rule; from then on he may be assigned patients by the team for individual or group counseling. He works with the team in planning treatment and release for the patient. Chaplains are assigned to the Fargo Grand Forks region, the Jamestown Minot Devils Lake region, the Williston Dickinson Bismarck region and the Alcoholism and Drug Unit. No individual chaplain is assigned to the Adolescent Unit or the Geriatric sections due to lack of staff. All chaplains are expected to be involved in those areas in addition to their assignments.

Training Programs

In the interest of mental health in North Dakota it is the policy of the Chaplaincy Department to encourage and develop programs for training clergy, seminarians and church related individuals.

In the year Residency Program three ordained men were in advanced training for a period of two years.

The rationale in giving the clergymen some understanding of mental illness is the fact that most people go to their pastors first if they become emotionally upset or ill. With some knowledge of the dynamics of illness the pastor can more adequately make a referral to a mental health center, the State Hospital or possibly be supportive enough to the parishioner to enable him to get through the crisis. Since the clergymen are so often involved in the illness of the community, it is best that he has some comprehension of the meaning and treatment of the illness.

Funerals and Burials

The Chaplaincy Department is responsible for notifying the next of kin whenever a critical illness or death occurs. Autopsy permission is also requested by the chaplain. During the years July 1, 1977, June 30, 1979 there were 34 deaths, 16 autopsies and 8 burials in the State Hospital cemetery. One body was sent to the Medical School at the University.

q. Volunteer Services
Pat Morris, Coordinatory

In January 1978 a formal opening was held for the "Unique Botique," a clothing distribution area for patients which was developed by the Jamestown Jaycetees.

In May 1978 in cooperation with the North Dakota Mental Health Association another art show was held at the State Hospital to secure paintings and wall hangings.

Volunteer Services coordinates co op education placement from North Dakota State University. In 1979 volunteers incorporated as a non profit corporation under the name State Hospital Volunteers, Incorporated. As a non profit corporation we qualify for work study placements from North Dakota colleges and universities.

In cooperation with the State Highway Department a Van Pool commenced operation in April 1979. Volunteers as well as employees utilized the van for transportation and in four years the van becomes property of State Hospital Volunteers, Incorporated.

Volunteer Services received a complimentary report following a visit by the Joint Commission in May 1979.

Volunteer Services cooperates fully with Job Services of North Dakota programs, however these training programs provide transitory staffing requiring the expenditure of a great deal of time and nervous energy in developing and implementing meaningful learning experiences for employee trainees.

Hospital administration has requested approval of a bare minimum of positions for Volunteer Services on several occasions. Approval of the positions requested is of prime importance if we are to continue to meet Joint Commission and Medicare/Medicaid requirements.

a. Housekeeping and Laundry Department
Mary Jane Melland, Executive Housekeeper

The department provides two major services: laundry service and custodial service.

There are 32½ budgeted positions in the department consisting of an Executive Housekeeper, two seamstresses, eight laundry workers, and 21 full-time and one part-time custodians. Work responsibilities include the following:

1. Cleaning offices, corridors, living quarters, the Nurses Residence, All Faiths Chapel, lobbies, classrooms, etc.
2. Laundering of linens and clothing for patients.
3. Sewing and mending of many articles of clothing, linens and curtains.
4. Procuring linens and clothing; furnishings and furniture for offices, wards and living quarters.
5. Control of pests and vermin.
6. Control of all keys in the hospital.
7. Arranging for telephone changes, repairs and removals.
8. Preparation of the hospital telephone directory and maintaining it in a current state.
9. Condemnation of clothing and linens.
10. Assignment of living quarters to employees.

In the laundry an average of 66,500 pounds of linen and clothing are washed each month. All linens are finished in the mangles, and folding is done mainly by hand. A typical week's wash will consist of 1,875 sheets, 55 bedspreads, 955 pillow cases, 515 hand towels, 1,470 dish towels, 3,170 bath towels, 2,865 wash cloths, 530 aprons, and 90 draw sheets. In addition to this list, there will also be processed patients' dresses, slips, underwear, socks, diapers, robes, curtains and other miscellaneous items.

In the sewing room about 2,500 articles a month are mended, fabricated and marked. A complete changeover to flameproof curtains has been completed throughout the hospital. The curtains were made in the sewing room.

b. Dietary Service
Mary Magnusson, Director

Sections

1. Receiving, storage and issuing area.
2. Preparation area, which includes the Central Kitchen, the Bakery, the pot and pan sanitizing area, three refrigerated walk-in coolers, one walk-in freezer, the dry storage and ingredient room.
3. Meat processing area includes the meat cutting room, walk-in refrigerated cooler and the slaughterhouse.
4. Produce area (vegetable and fruit preparation).
5. One dining room with three cafeteria serving lines – two for patients and one for employees.
6. Preparation, portioning and distribution of food for 19 ward areas.

Personnel

The Dietary Service has 50 budgeted personnel with 16 positions; one Dietary Director, one Dietary Secretary, and one Dietary Service Supervisor, one Storeroom Supervisor, one Meat Processing Supervisor, one Assistant Meat Cutter, one Chief Baker, one Assistant Baker, one Production Supervisor, three Supervisor III's (Preparation Area), four Cook III's, four Cook II's, six Cook I's (Preparation Area), one Dining Room Supervisor, three Supervisor II's (Dining Room), four Food Service Worker II's (Dining Room), 12 Food Service Worker I's (Dining Room).

Functions

Plan and prepare menus for both regular and modified diets, including employees; designate type, quality and quantity of equipment, food and supplies, purchases; prepare patients and employees food; serve regular and modified diets in Central Dining Room; prepare and portion modified and regular diets in Central Dining Room; prepare and portion modified and regular diets in preparation area for patients special needs as requested for any of the 19 ward dining areas; supervise and furnish guidelines for food handling and sanitation for all dining areas; plan and prepare all the bakery products; plan for slaughter and process of all meat into edible portions; prepare special lunches; picnic meals and snacks; preparation of raw fruits and vegetables; keep a perpetual inventory on food, supplies and equipment; prepare monthly food costs.

Activities and Improvements

1. Utilize and standardize recipe file for food preparation, with continuing process of revising for improvements.
2. Keep a perpetual inventory on the food, paper and soap supplies which is costed out twice a year. Inspection is made yearly by the state auditors. Better Cost Control, smaller inventories, better sanitation, proper rotation and improved purchasing procedures have been established through this system.
3. Utilize the daily census sheet and/or weekly and daily calls from ward areas for the patient count. Written requests signed by the doctor is necessary for the modified diets which are turned into the Director of Dietary as needed for all areas. A meal to meal count sheet is kept in the preparation area. Records of modified diets are kept in a Kardex file in the Director of Dietary's office.
4. Cycle menus for regular diets are utilized with modification made to meet the individual need for the patient requiring a special diet.
5. Check sheets are utilized by the Dietary Supervisory personnel for inspection of food handling and sanitation on the ward dining rooms where nursing personnel are responsible for the food handling and passing the meal trays. This has been an effective communication system for both departments.
6. A ticket system for employees, guests and students is being utilized in the Central Dining Room. Money is not handled in this area. The ticket can be purchased in the Business Office.
7. There are patient helpers assigned in the preparation area for food cart delivery and in the Central Dining Room during meal service for therapeutic evaluation. They are screened through the ward team and the coordinator from Activity Therapies. The patients are paid by the hour with the amount determined as to their capabilities in the work area. There is a weekly meeting held with the Coordinator and Dietary Supervisors for evaluation for each patient assignment.
8. During this period extra personnel were employed for the Dietary Department through the Emergency Employment Act, the Public Employment Act, the Work Incentive (Welfare) and the Neighborhood Youth Corp.
9. Scheduled snacks are distributed to all the ward areas each evening.
10. Regular in-service training meetings are held for all dietary personnel.

11. Daily and weekly meetings are held for all dietary supervisory and charge personnel which has established better communication in the different work areas.

12. The Dietary personnel work on a 4/40 rotation schedule which they have voted to continue. The personnel are rotated into the work area and rotated out of the work area in the same manner; with more skilled personnel on duty for the peak times of need during the day.

13. Continuous improvements are made in the slaughtering area to meet the Federal Meat Inspection Standards. This area has received excellent rating from the Federal Veterinarian.

14. The budgeting personnel within the department, are distinguished by paper caps and headbands which are color coded and printed as to their specific position. This has been an incentive for the employee to progress in their job.

15. Inspection check sheets as to sanitation procedures are utilized throughout the department on a bi-weekly and monthly basis. The Dietary staff are assigned for the inspection.

16. Safety rules for the Dietary Department have been established, reviewed yearly and approved by the Safety Committee. A monthly Fire Safety Inspection Sheet is filled out for each area, by different Dietary employees each time with the Director sending in a monthly report, taken from these sheets to the Fire Marshal at the hospital. This has made all of the personnel within the department more aware of safety and fire procedures.

17. A tasting committee is assigned to taste the food, evaluate it and make written comments before the meal is served. This has been successful in making sure that all food is palatable and satisfactory before being portioned and served to the patients. All employees become involved in this assignement on a rotation basis.

18. The Director has appointed several committees within the department to serve one year on special tasks. These committees have given the personnel an opportunity to become involved in extra activities of the department, the hospital and the community.

19. Thorough housecleaning is done by the dietary staff in all areas of the department twice a year.

20. Decorations, colored tablecloths and napkins are displayed in the Central Dining Room for Thanksgiving, Christmas and Easter. The patients have relayed their appreciation for this added atmosphere.

21. The Dietary Director was appointed to serve on the membership committee for the National Hospital Institution and Educational Food Service Society for 1978-1979 and attended the annual meeting and educational sessions held in Las Vegas, Nevada in August 1978.

22. Two Dietary Supervisors attended Continuing Medical Sessions on supervision and time management held in Jamestown, North Dakota on April 26, 1979. The one day seminar was given by the Division of Continuing Education, University of North Dakota, Grand Forks, North Dakota.

23. The Dining Room Supervisor completed the 52 week correspondence course approved by the American Dietetic Association and satisfies the HEW 90 hour training requirement. There will be two dietary staff taking this course during 1979-1980.

24. Three of the Dietary Supervisors are certified through the National Hopsital, Institutional, Educational Food Service Society. They will need to attend Continuing Educational Sessions to earn at least 15 clock hours of continuing education per year or 45 clock hours of continuing education in three years to meet the certification standards.

25. The Dietary Department has been involved in the Nutrition VII program for the James River Senior Citizens since November 1973. An average of 180 meals are prepared Monday through Friday (noon meal) at a nominal cost, for this program. Becoming involved in this program was due to the fact that they could not get anyone in the community to prepare these meals; therefore, the Senior Citizens total grant would have been lost. The Dietary Director plans the menus and serves on the Nutritional Council. A yearly contract is established between the Project Director and the Dietary Department at the hospital. Four centers have been established, three in Jamestown, N. D., one in Streeter, N. D., with an average of 64 receiving meals-on-wheels which are delivered by volunteers. This has proven to be a gratifying program.

26. Patient Food Acceptance Questionnaire is distributed by the dietary supervisors every three months so that the patients food habits can be evaluated and changes in menu planning have been made. Copies of the written evaluation are kept on file in the Dietary Director's office.

27. A dietary requisition budget was established through the dietary director and the hospital controller for each ward in each region in order to have better control as to what is being ordered on a weekly basis for each ward. The ADN and Unit Nursing Managers are responsible for staying within this budget. This is evaluated monthly at the Therapeutic Food Committee meetings.

28. The job description for all the positions in the dietary department have been re written.

29. The Receiving and Treatment Center dining room was closed with the patients dining in the Central Dining Room. A food cart is delivered by dietary personnel each meal, food is portioned into disposable food trays on each of the four wards in this building for restricted patients. This has been very successful and has saved on labor. Equipment from this dining room is being utilized in the preparation area and the Central Dining Room to very good advantage.

30. In Service educational sessions have been held for all dietary personnel on fire safety conducted by the Fire Safety Officer from the Jamestown Fire Department. This included fire extinguisher demonstrations.

31. Advanced planning regarding menus and food furnished from the camp out program during the summer months for the patients.

32. During the summer months the regular weekly menu is planned so as to include at least one picnic meal so that the more capable patients may be taken outside or to the city park to enjoy their meal.

33. The department is participating in the Character Motivation Program established on several of the ward areas. This is a reward system for the patient.

34. Food is requisitioned from the food storeroom for the food preparation area as to the daily needs of the menu. This has been a means of better control in the preparation of all food.

35. The Dietary Director is the Food Consultant for the Child Care Center. Weekly menus are made and a food cost report is prepared and given to administration and to the Child Care Center committee monthly.

36. During the past year the Central Dining Room was redecorated with a complete paint job, new curtains and new light fixtures were purchased. This was an improvement for the patients dining pleasure as well as a more pleasant atmosphere for the employees assigned to this area.

37. Individual meal tray service was established in January of 1977 for both the regular diet and modified diets served on the ward. These are labeled and portioned as to the type of diet in the preparation area. There are an average of 180 individually portioned for both the hot and cold food. The nursing staff passes the trays directly to the patient and help feed the patient as needed. This has assured that the patient is receiving a controlled diet program.

38. Nutritional assessment and diet instructions are given to all the patients for both the regular diet and modified diets. This is charted on the Medical Record. Dietary supervisors are attending team meetings on the wards on a regular basis.

39. The Dietary Director was elected to serve as treasurer for the National Hospital, Institutions and Educational Food Service Society during 1979-1980. installation into this office will be held at the annual meeting and educational sessions in Washington, D.C. in August 1979.

c. Farm Department
Lloyd Bauske, Farm Manager

The Farm Department is divided into three major sections:

1. Growing small grain and hay
2. Producing milk and cream
3. Raising beef

The Farm Department is in charge of the land and pastures amounting to 3,320 acres. A high quality dairy herd of approximately 100 to 150 head is maintained. The beef herd averages around 400 to 500 head.

The Farm Department produces all milk, cream and beef needed by the patient population and the employees' cafeteria, a total of almost 1,000 people. The staff consists of one manager, five dairymen and two to four farm hands.

During the summer and fall season sufficient winter supplies of feed are raised for the dairy and beef herd.

During the growing and harvesting season, the entire farm staff is involved in the farm work. During the off season, from fall to spring, the men are assigned to care for the herds and repair shop for overhaul of farm machinery, trucks and various hospital equipment. Also they assist in building maintenance during the winter season.

d. Engineering Department
Erik Peterson, P. E., Chief Engineer

The Engineering Department has 34 budgeted positions. These positions include technicians, skilled tradesmen such as Carpenters, Plumbers, Steam Fitters, Electricians, Painters, Machinists, Masons, Plasterers, Operators for water treatment plant and boiler and power house, Equipment Operators and laborers. These positions are needed to operate, build, repair, service and maintain the physical plant, buildings, utilities, and equipment of the hospital at top efficiency; all for the purpose of providing adequate care, protection, safety, and welfare to the patients.

The Engineering Department operates and maintains the following utilities:

1. Water treatment plant and water distribution system.
2. Primary and secondary lagoon sewage disposal system for sanitary sewage treatment, lift station and sanitary sewage distribution system.
3. Power and boiler house; high and low pressure steam distribution system including condensate return lines; hot water distribution system; 2400 volt electrical distribution system; and incinerator.
4. Refuse collection system and sanitary land fill disposal system.
5. Intercom and TV co axil cable system.
6. Truck and freight services for all departments.
7. Streets, sidewalks and parking areas.
8. Auxiliary fire department.

The Engineering Department operates the following shops: plumbing, electric, carpenter, paint, machine, mason and plaster. In these shops repairs are performed on all types of electrical appliances; such as toasters, hot plates, irons, waffle irons, ranges, refrigerators, motors, washing machines, dryers, vaccum cleaners, floor lamps, desk lamps, sewing machines, transformers, chimes, electric razors; electronic equipment such as TV's and radios. Many items are made in these shops which are too numerous to be listed.

Preventive maintenance schedules have been set up for servicing and repairing the various equipment, facilities and buildings throughout the hospital such as elevators, refrigeration equipment, kitchen equipment, dining room equipment, laundry equipment, hospital equipment, housekeeping equipment, mechanical and electrical equipment in the buildings, fire alarm systems, sprinkler systems.

The sanitary sewer system including primary and secondary sewage lagoons for treatment are functioning satisfactorily and meet requirements of government waste regulation.

Water supply, water treatment plant and water distribution system is adequate for hospital needs and for emergency and fire protection requirements. A 10 inch water main connects with the city of Jamestown, where a two million gallon reservoir is available for emergency use.

The electrical distribution system with the new switchgear, generators, and new 2400 volt emergency distribution systems which have been installed and are now in operation meet the hospital needs for emergency, fire and safety protection requirements. Emergency power systems for the buildings were installed by the Engineering Department.

Electrical energy consumption and peaks have been increasing every year. Conservation measures instituted this past biennium have reduced the peak kilowatt demand so that our peaks are below the 950 KW for which the State Hospital has a contract with the Bureau of Reclamation now called the Department of Energy.

A total of $390,000 in contracts have been completed on the six story medical center building. With completion of these contracts, a full fire protection system has been completed which includes second stairway to the sixth floor, complete sprinkler system, required heat and smoke detectors, required fire and smoke doors and smoke partitions. In addition, a nurses' call system has been installed on sixth floor and isolation rooms on second floor. Also accustical ceilings were installed on all of the 4th, 5th and sixth floors and in the corridors on 1st, 2nd and 3rd floors. New lighting fixtures have been installed throughout the building. A complete oxygen gas system was installed on the sixth floor. A special emergency service system was installed on one of the elevators.

Sixteen West building No. 15 and 12 West building No. 6 contract has been completed for installation of individual control thermostats to control temperature for each individual room. Attic has been completely insulated to meet new regulations; and exhaust system has been installed for all bath, shower, and toilet rooms. The insulation of attic and installation of the individual thermostats will save energy as well as control temperatures for the patient more uniformly.

Receiving and Treatment Building No. 81 contract has been completed for installation of individual control thermostats to control temperature for each individual patient room and offices which will provide for more comfort for the patients as well as saving energy.

ABC Building N. 3 an exhaust system has been installed for all bath, shower and toilet rooms. New light fixtures were installed on Wards B and C.

Twenty East Building No. 8 all four wards have been newly painted and decorated. Electrical wiring system in the building has been rewired to meet electrical code and renovation and remodeling of the wards. New electrical fixtures were installed on all wards. Required emergency electrical circuits were installed in all the wards. Kitchen sinks, dishwashers, lavoratories, water closets, clothes washers and driers, showers, tubs, drinking fountains, additional heat convectors were installed by the Engineering Department. Stacks and piping were run for new employee toilets on each ward. Required fire alarm systems were installed in the building. All exterior windows on the first three floors were painted. Doors, windows, hardware, cabinets, shelves and counters were renovated by the Engineering Department.

In the older ward buildings, heating and ventilating systems are being modernized by installation of thermostats for automatic heat control. Additional electrical circuits, panels, receptacles, lighting fixtures and rewiring of old circuits are being continually provided to meet electric code requirements and renovation programs.

In all buildings, painting and decorating is being done as fast as size of paint crew will allow.

Toilets and bathrooms are being modernized by installing ceramic wall tile, toilet partitions with doors and grab bars.

Carpenters have built many cabinets, counters, shelving, etc., for the wards.

Contract has been let for maximum security building. Contracts total amount to $1,389,108. As of July 1, 1979, contracts have been 20% completed. Ten East Building No. 10 was razed to make room for the new building.

The Engineering Department has carried out many renovation projects which are too numerous to be listed. The major and minor improvements to the older buildings include mechanical and electrical items which need to be modernized to meet present day codes.

e. Business Department

Timothy A. Hunt, Administrative Assistant and Controller

The Divisions of the Business Department are as follows:

1. Business Office: The business office employs three people. Its function is to maintain hospital accounts and keep detailed records of the expenditures; to maintain a complete record of the patient's personal financial accounts; balance all cash receipt daily; and to stamp all mail going out of the hospital on a postage meter machine.

2. Accounting: The accounting office maintains ledgers, journals and check registers for the hospital and the patients' store. State and federal reports are prepared. Budget control, cost containment, and audit functions are also the responsibility of the accounting staff.

3. Secretaries: There are 13 members of our stenographic team. The bulk of all typewritten material in the hospital is prepared and distributed by these secretaries. They also operate and maintain numerous office equipment machines.

4. General Store: This store employs three persons. The main function of this department is to receive all incoming purchased items and route them to their destinations.

5. Communications: This department employs five telephone operators. It is the duty of these employees to maintain constant supervision over the switchboard, to supervise the sorting and distribution of all incoming mail and act as an information center for inquiring visitors.

6. Transportation: This department employs two people. One serves the entire hospital by transporting patients to various parts in or out of the State. He also makes routine pickups downtown for all departments. The other employee services all the hospital's motorized equipment and keeps them in good running order.

7. Patients' Store: The patients' store staff includes three full time and one part time persons. This shop is self-supporting. It maintains its own stock and pays its own employees. All profits are sent into the State Treasury to be used for the Patient Welfare Fund.

8. Accounts Receivable: There are four full time employees in the Accounts Receivable Department. They are responsible for recording all care and treatment receipts to the proper accounts, filing Medicare and Medicaid claims as well as helping patients file various other insurance claims.

9. Inventory Control: This department is responsible for maintaining accurate accounting of the hospital's fixed assets and inventories. It employs a computer system of inventory control through N.D.S.U. computer center. This system maintains identification numbers and the placement of the asset is listed according to department, building, floor and room number so responsibility for that item can be readily assigned.

STATEMENT OF BUSINESS OPERATIONS

Statement of Patients Per Diem Cost for period 7/1/77 to 6/30/79

Table 8

	1978-79	1977-79
Total Patient Days	$ 223,257	$ 214,962
Total Operating Expenses	$10,899,849	$10,201,580
Average per patient day cost	$ 48.82	$ 47.46

Table 9

	Appropriation	First Year Expenditures	Second Year Expenditures	Balance
Salaries & Wages	$17,671,367.80	$7,695,972.18	$9,843,710.11	$131,685.51
Fees & Services	1,465,417.00	614,832.94	850,392.80	191.26
Central Data Processing	16,455.00	7,339.21	8,683.44	432.35
Central Microfilm	690.00	0	0.0	690.00
Supplies & Materials	2,260,685.20	1,090,156.30	1,170,365.66	163.24
Equipment	294,621.00	211,393.57	82,236.70	990.73
Remodeling Projects	1,424,000.00	263,135.33	653,871.34	506,993.33
Maximum Security Unit	250,000.00	0	0	250,000.00
	$23,383,236.00	$9,882,829.53	$12,609,260.05	$891,146.42

Table 10
PATIENTS STORE COFFEE SHOP

	July 1, 1977 To June 30, 1979
Gross Sales	$ 335,291.89
Less Cost of Goods Sold	245,366.03
Gross Profit	89,925.86
Less Operating Expenses	78,852.19
Operating Income	11,073.67
Other Income	1,435.19
Net Income	12,508.86

TABLE 11
Source of Institutional Collections

	July 1, 1977 To June 30, 1979
Investigation Fees	$ 5,138.70
Psychiatric Care	6,104,983.64
Outpatient Care	323,208.31
Rental of Land	100.00
Room Rental	89,629.66
Equipment Rental	2,672.94
Telephone Rental	282.07
Agricultural Products	22,263.13
Salvage & Scrap	35,004.79
Meals	164,289.58
Adult Education Grant	74,539.99
Library Grant	7,000.00
Title I Grant	35,661.72
Miscellaneous	3,650.00
TOTAL	$ 6,868,424.53

f. Medical Records Department
Marjorie Steward, Supervisor

The Medical Records Department has continued to maintain the records that are necessary to meet the requirements of the Joint Commission on Accreditation of Hospitals. The standard requirements state an adequate medical record is to be maintained for every patient admitted to the hospital. The standards further state that the medical record shall contain sufficient information to identify the patient clearly; to justify the diagnosis; to delineate the treatment plan and to document the results accurately. Problem oriented records have been maintained on all patients since November 1, 1972. In this new approach to patient care the social, economic and physical problems are listed by number and title. The problems are discussed by the team members, treatment plans are formulated to solve the problems and the appropriate discipline is designated the responsibility of following through and documenting the progress in the medical record. The problem list is placed in the front of the medical record much like a table of contents and all data is cross-indexed to the numbered problems. In this way the records will provide sufficient information to identify the diagnosis, to delineate treatment plan, to document the results accurately and individualize each patient. Problem oriented release summaries will also provide the basis for important guidelines for followup care of each patient. All of the medical records are kept current, accurate and confidentiality is maintained.

The Medical Records Department is adequately staffed and equipped to facilitate the accurate processing, checking, indexing and filing of all medical records. The modern electrical retrieval system and filing procedure has proven to be very efficient and effective.

A Utilization Review and Medical Auditing Committee has been established in order to comply with the regulations regarding Title 18 and Title 19 recipients. The purpose of the regulations is to assure high quality patient care; effective and efficient utilization of hospital facilities and services; to assist in the promotion and maintenance of high quality care through analysis; review and evaluation of clinical practices within the hospital. Medical Records will continue to maintain liaison with the various departments of the hospital to expedite the duties of this committee.

Microfilming is an ongoing process and 355 rolls of microfilming have been completed and filed.

g. Division of Health Science Library
Mrs. Laurie Reule, Librarian

INTRODUCTION

The professional Library of the North Dakota State Hospital is basically a health-science related facility. This Library is part of the educational system of the hospital and is oriented to the needs of all hospital staff and students training in the health-care fields. The Library provides materials which will help them improve in the skills of their profession. The Library continues to progress, providing additional literary tools to meet the current needs of all clientele through basic psychiatric, medical and related therapy books, current periodicals, interlibrary loan service, audio-visual aids, therapy tapes and other related service. The Library serves as a study center to a staff clientele of 755; to an average of 20 Nursing Students during a continuing 9-week program; a Licensed Practical Nursing Program; Jamestown College Program of 70 Nursing Students as well as the general academic students; Dickinson and Minot State College Nursing Students during the summer months. Other short-term nursing programs, consisting of 1-week duration or less, are welcome. Orientation to the Library is given to all In-service Classes, educational programs of the Hospital and to various student programs within the area.

AFFILIATIONS

Membership in the Medical Library Association entitles the Library to participate in the Literature Exchange Plan and Interlibrary Loan Service within a four-State region. Membership is also maintained in the North Dakota Library Association, North Dakota Health Science Information Section of North Dakota Library Association and in the North Dakota Valley Medical Network Consortium. Since becoming a member of the Consortium in 1975, the inter-library loan requests have increased tremendously. The Library is able to supply most requests as other libraries use the Minnesota Union List of Serials as an index and reference. This Library is also a member of the Minnesota Union List of Serials and the Library's holdings are contained within that listing. We also have access to the four regional American Hospital Education Centers of North Dakota for literary and audio-visual loans.

SERVICES

The Library of Congress System of Classification is implemented in this Library for books and technical references. Approximately 9000 books are cataloged at the present time, including bound volumes of periodicals. Magazine subscriptions have been increased to 160; Cassette therapy tapes complete with recording equipment to 300; Library-owned films to 23; filmstrips and slide sets to 15. An average of 25 films are scheduled monthly from outside sources for various hospital disciplines as supplement material for the In-service Training Programs. Complimentary material is accepted from other sources within the hospital, National Institute of Mental Health, Government Printing Office and Drug Laboratories. These are utilized to supplement library holdings or placed on the Exchange List for availability to other libraries. All serials and books are also listed with the State Library Commission at Bismarck, North Dakota, which is used by other libraries as a reference center.

AUTHORITY

A clinical committee of nine members representing separate clinical departments, constitute the advisory board of the Library and meets the first Thursday of each month in the Library. The Librarian serves as the direct supervisor of the Library and is under the direction of the Hospital Administrator for administrative procedure.

STAFF

An accredited librarian and two library technicians serve the Library on a 40-hour weekly basis. One technician is in charge of all procedures involved in cataloging and reviewing periodicals and the other technician executes all interlibrary loan requests and audio-visual service. The technicians share the responsibility of daily services and circulation procedures. Library hours are from 8 A.M. to 5 P.M., Monday through Friday, including noon hours. During Student Nursing Training Programs, the Library is also open one or two evenings each week during the five-day period.

GOALS

A projected plan for this Library takes into account the continuing need of updating reference material and the growing demand for audio-visuals, both hardware and software. Many of the educational programs of the Hospital include films, slides and cassettes as part of their training program. The rental rates of films have increased to the point that it is more feasible to purchase, if the budget allows, rather than execute continuous rentals for the same films. The fact that the Library has made good progress in acquiring the necessary tools for study but continues to grow in content and context, presents a continuous need for more constructive and technical material for educational training programs in the professional disciplines of this Hospital. Additional space will be needed in the near future to accommodate the various collections of the Library.

h. DIVISION OF MEDICAL STATISTICS

Barbara Harper — Supervisor

Medical Statistics staff consists of three individuals: Statistician, Data Input Operators II and III.

The Department's primary purpose is to prepare the Daily Census Sheet which contains current data regarding admissions and demissions for a 24-hour period. This report serves as a worksheet for other departments within the hospital.

Pertinent data is retained on punch cards for future use in preparing Federal and State reports plus reports requested by qualified individuals.

At present, plans are underway to transfer data from punch cards to a computerized system.

For current statistical data see Tables 1 through 7.

i. Credit and Collection Department

Harvey D. Hjelmhaug, Director

There are eight budgeted positions in this department, three of which are fulltime field representatives. The department head is responsible to the Hospital Administrator.

The costs of care and treatment are determined by the Hospital Administrator and the State Department of Health. These costs are re-evaluated annually and the daily charges adjusted accordingly.

The department is responsible for the collection of the delinquent care and treatment expense accounts for patients directly associated with the North Dakota State Hospital.

Each patient admitted is responsible for the costs of his/her care and treatment expense while a patient at the State Hospital. In the collection efforts of the past due account, each patient, his/her responsible relative or court appointed representative are interviewed to determine ability to pay. Full payment is requested, but if that is not possible then a mutually agreeable installment arrangement is attempted. Legal action is a last resort but a viable avenue that must be maintained.

The total collections for the last biennium were $6,221,054.24.

j. Grounds Department
Leonard J. Haitsch, Administrative Officer

There are six budgeted positions in the department. In summer work force is augmented by two or three part-time people depending on need and availability of funds. The department is under the direct supervision of the foreman who in turn reports to the Administrative Officer.

Providing a clean and orderly appearing outdoor environment, and protecting the health, safety and convenience of the people using the hospital grounds are the department's principle missions.

During the growing season attention is given mainly to grounds appearance and the growing of vegetable crops. In recent years, however, gardening has become an increasingly important activity. Winter time work is confined mainly to snow and ice removal, equipment maintenance and litter pick-up.

During the past biennium, the following work activities were routinely performed:

1. Planning and landscaping for an attractive grounds environment.
2. Planting and maintaining shrubs, trees, lawns and flower beds.
3. Developing counteractives for plant diseases, weeds and insect pests.
4. Keeping the grounds free of litter and debris.
5. Removing snow and ice from walks, streets and parking areas.
6. Instal'ing and maintaining traffic signs around the hospital grounds.
7. Maintaining the floral and garden greenhouses.
8. Growing, harvesting and storing vegetable crops for hospital use.
9. Maintaining the hospital cemetery in a neat and well-ordered appearance.
10. Maintaining and repairing departmental equipment.